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August 2021



The International Publication of the American Society of Cinematographers

American Cinematographer

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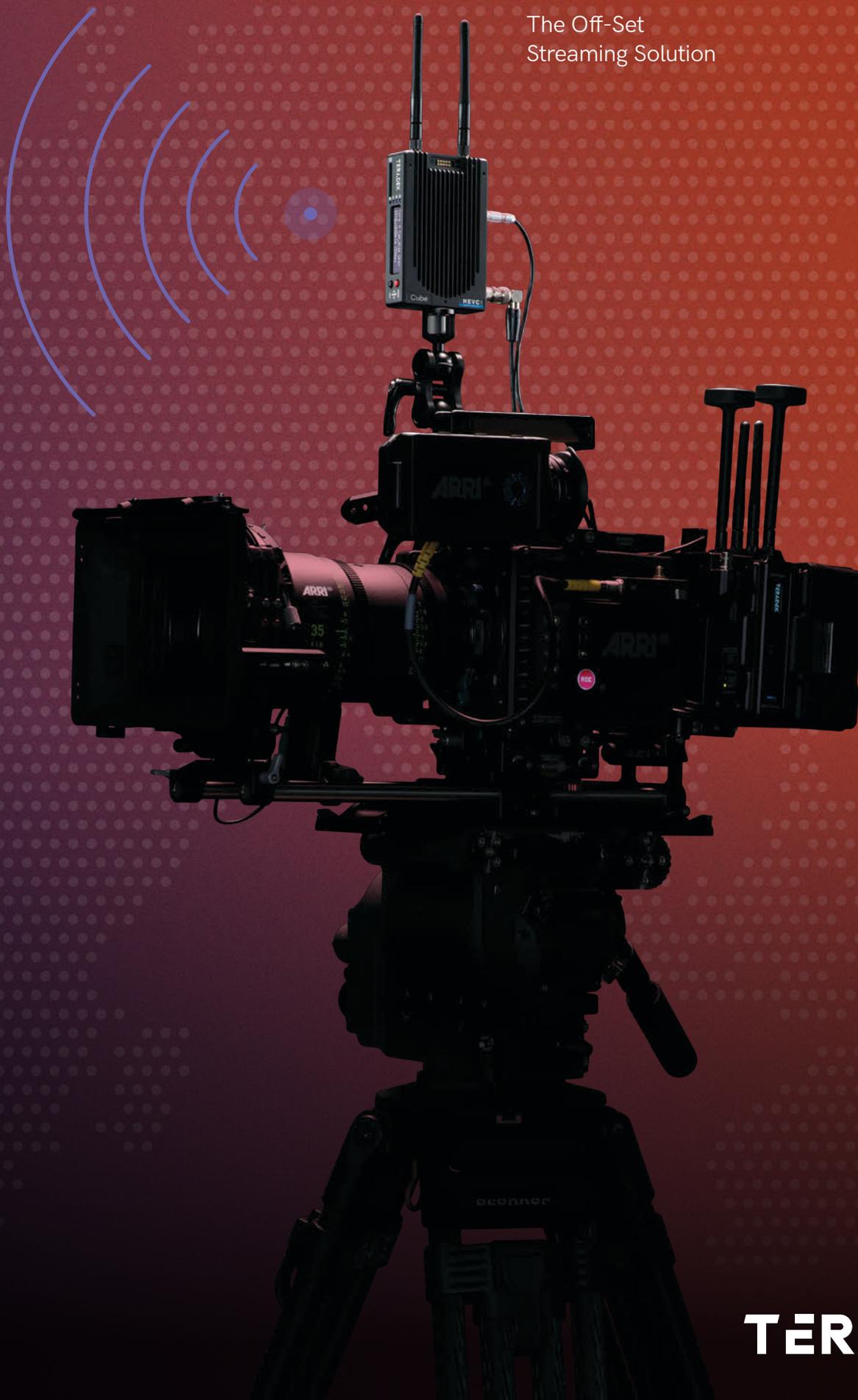
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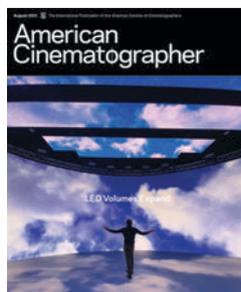
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(Photo courtesy of MADO XR.)

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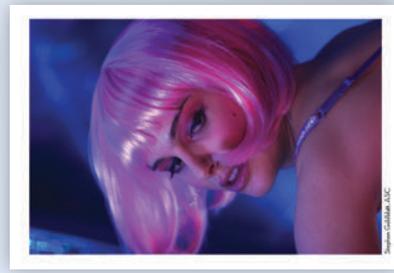


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"It was a 37-day shooting schedule and the fort, our principal location, was on the north side of the Atlas Mountains, not the best for a cinematographer. The light was volatile: cloudy and dark one moment and bright sunshine the next. But symbolically a fantastic location because in the snowy mountains dwell the barbarians, ever present, but not seen.

I chose the Cooke 5/i primes for two reasons. They are, I believe, quite forgiving. They are mellow in contrast, colour and sharpness. But most importantly the 5/i lenses are T1.4 and that extra speed was vital to completing schedule within the tight timeframe. Coupled with the ARRI ALEXA SXT and Mini, the Cookes performed remarkably well. They don't have — God forbid I would say this— the slight hard edge that some other primes have, and they have the speed. They join in telling the story. They make a commitment.

We went with a 2.39:1 spherical aspect ratio. We wanted clarity and lenses that matched. Basically, the Cookes were terrific. The most important thing in this scenario was 'fast' combined with the skill of our focus puller, Olly and the crew."

Chris Menges, ASC, BSC
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Waiting for the Barbarians

An extract of an interview by Jon Fauer for Film and Digital Times



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Letter From the President



PORTRAIT BY
MICHAEL M. PESSAH, ASC.



THE WRESTLER IMAGE COURTESY OF SEARCHLIGHT PICTURES.

LET'S BE CLEAR: “*Indie production*” — or independent film — can refer to a small film, a low-budget film, and so on, but really, “indie” should be seen as referring to a film with independent *spirit*. “Risky” subject matter is, after all, usually what indies take on. In this issue we report on *CODA*, honored at Sundance and beautifully photographed by Paula Huidobro, AMC, which imagines the life of a young woman with normal hearing, raised in a family that’s hearing impaired. The young woman finds her calling performing as a singer — a talent her family must struggle to appreciate.

In a line of dialogue from the film, her music instructor says (more or less), “... if you want to sing, you have to have something to sing about.” This is a guiding thought for indie filmmaking, and most indies do have something to say. There is a long list of honored films that have tackled major issues, whether personal or political. The acclaimed indie *The Wrestler*, with cinematography by Maryse Alberti, is another film about a performer. Performance figures in *In the Heights* as well, reported on in this issue, with cinematography by Alice Brooks. All kinds of movies — low-budget and big-budget — are about performing and filmmaking, as a natural and successful formula. *The Wrestler* shows its indie spirit and becomes more than a film about a declining, sad career, but about taking a different path, finding that fork in the road that leads to acceptance and new choices, rather than butting one’s head — literally — against a reality that’s obvious to those who know you and want you to succeed in your life. The formats of the film itself are perfect analogues for the story: widescreen for the heroic determination of the wrestler, but 16mm film (saving money!) to represent the desperation of his professional and personal life.

We’re well-aware that “low budget” usually means small casts, even smaller locations (which crews are often thrown out of, anyway), small transpo departments, small numbers of lights, and simple camera packages. To address these issues, Jay Holben takes you on a journey in this month’s Shot Craft section to help you — in the famous filmmakers’ cliché — learn how to make lemonade when all you have are lemons. Always remember, however, that the tools are about telling a story, so drooling about the crew that’s around the corner, at a different location with many, many trucks, is inappropriate, because that group is drooling about the juicy story *you* are telling on a micro budget. You have to have something to sing about.

Stephen Lighthill
President, ASC

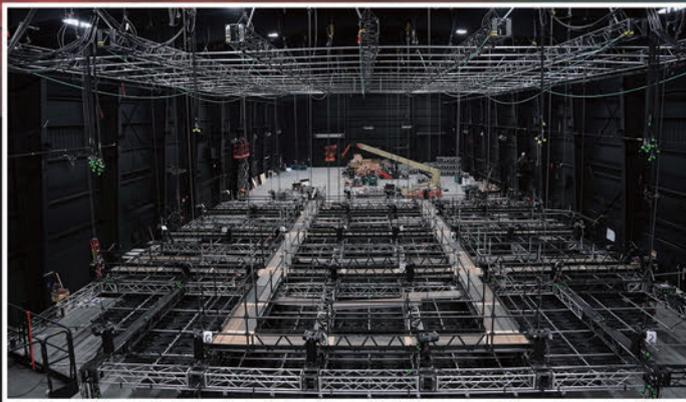
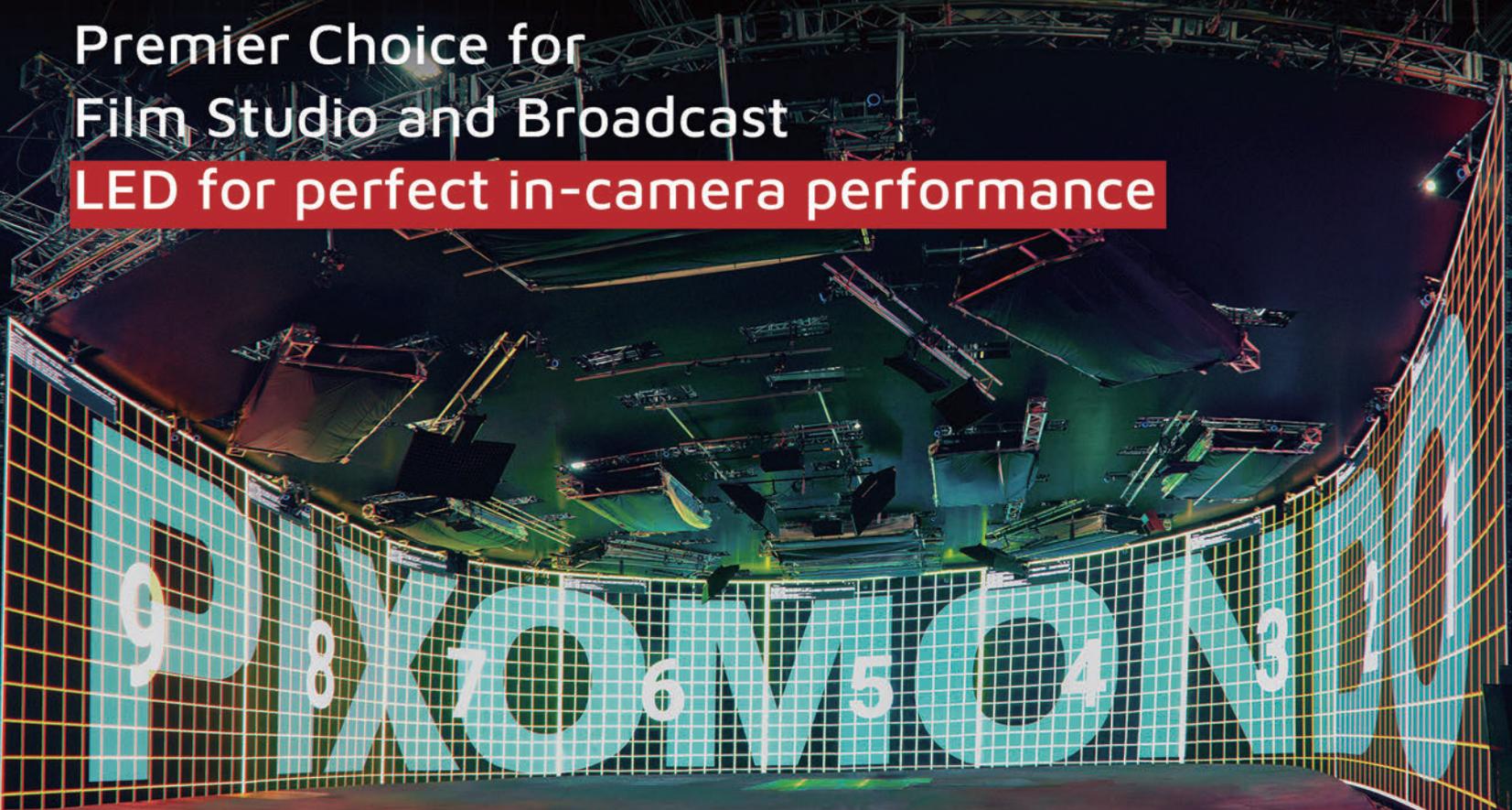
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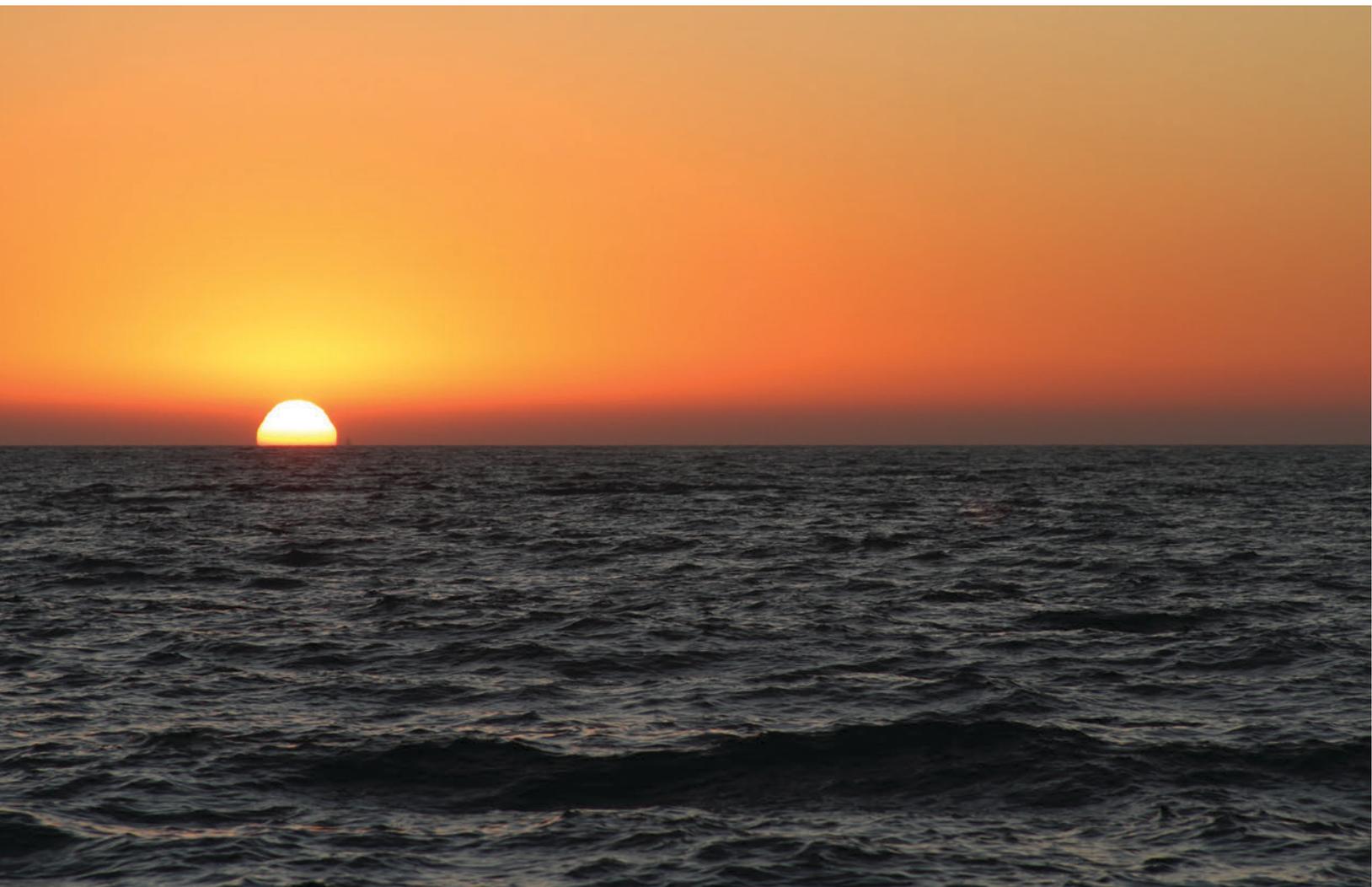
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Follow the Sun



PHOTOS COURTESY OF JAY HOLBEN.

Cinematographers working in independent film must learn to make the most of limitations — limited funds, limited time, limited gear and limited crew — in order to realize the director's vision.

Fortunately, the world is teeming with free natural light. But do you really know how to harness it and shape it to your needs?

Tracking: The Earth Goes Round and Round

We all know the sun rises in the east and sets in the west.

Cinematographers must also understand that in North America, the sun peaks higher in a summer sky and lower in a winter sky. You must also know the angle at which sunlight will hit your location every hour of the day you'll be there. Will the sun streak through the windows at dawn or dusk? Or maybe not at all?

In the most basic terms, if windows face east, then sunlight will shine directly into them in the morning; if windows face west, the late-afternoon sun will shine in; if they face north, you won't ever get

direct light through them at any time of day; and if they face south and it's summer, you probably won't see any direct light (depending on the location's latitude), whereas in winter, you could have some type of direct light all day long.

One of the first things you'll do when you learn of a location — even before the scout — is look it up on Google Maps and find out the location's orientation to the sun. Then, when you scout, take a compass. (You can download a basic compass app on your phone.) Maybe the

director wants streaking sunlight through the large picture windows, but you check the compass and find out the windows face north. The only way to have sunlight streak through is to create a setup for redirecting the light (or find another location).

You should also get accustomed to thinking in compass directions if you don't already.

Sunrise and Sunset Drift

The length of day and night differ depending on your distance from

Natural sunlight has been adapted to appear as moonlight by incorporating mirrors, diffusion and color-correction gels.

the equator, and sunrise and sunset times change from one day to the next. North of the equator, sunrise gets progressively earlier every day beginning Dec. 21 (winter solstice) until June 21 (summer solstice), then gets later every morning until Dec. 21. Respectively, sunset gets progressively later each day from December to June, then earlier, between the solstices. This makes June 21 the longest period of daylight and Dec. 21 the shortest.

When you're south of the equator — in Australia, for example — those dates flip. Summer solstice is in December and winter is in June, so from June to December, your days get longer. Near the North and South Poles, things are a lot different; the internet is packed with sun-tracking information resources.

Relentless Movement

The sun's constant movement through the sky over the course of a day can be one of the biggest impediments to shooting with natural daylight — and it's up to you to work with the sun and its movement, to plan out your day so you can follow the movement of the sun with your shots and coverage and maintain continuity of look. Fortunately, the sun's movement is consistent and predictable.

The sun moves across the sky $\frac{1}{4}$ degree per minute. Using a sun-tracking app, you can predict where the sun will be at any moment of any day, even years in advance. I use Chemical Wedding's Helios app, which was designed for cinematographers, but there are others, including some free ones.

If you don't have a sun-tracking app on your phone, get one now.

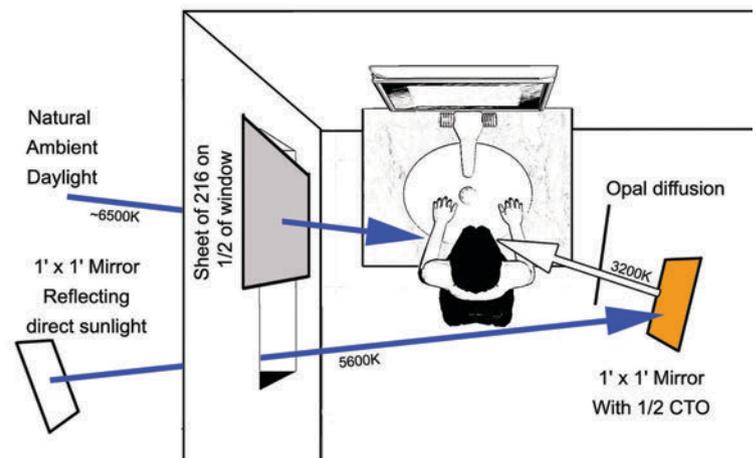
There are two independent measurements for sun position:

its compass heading and its "height" (or azimuth) in the sky. The compass heading is divided mathematically into 360 degrees with due north being zero, east 90 degrees, south 180 and west 270. The azimuth angle is a 180-degree arc from horizon to horizon. Ninety degrees azimuth is straight up and 0 degrees is the horizon at sea level. You should have a compass with a clinometer, which allows you to sight a particular azimuth. I have a clinometer app that allows me to sight along the side of my phone, and it will tell me what azimuth I'm looking at.

Armed with this information and these tools, you can determine exactly where the sun will be at any moment. You'll know that it will pass behind a building at your camera position at exactly 5:20 p.m. and peek back out at 5:47 p.m.

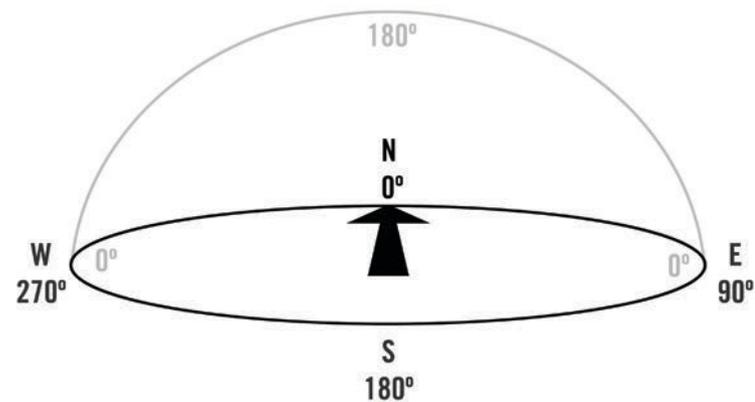
There is also a way to estimate this without the fancy tools. Since the sun moves $\frac{1}{4}$ degree per minute, that translates into 3.75 degrees every 15 minutes and 15 degrees every hour. As it turns out, the width of your finger when it's extended arm's length from your eye subtends about 3.75 degrees on your eye (i.e., your finger's width, from your perspective, appears to take up approximately 3.75 degrees of the arc within your field of view). So, the width of your finger approximates how much the sun will move in 15 minutes, and the width of four fingers side-by-side approximates how much it will move in an hour.

Of course, you shouldn't look directly at the sun. You can glance at it through welding glass or a heavy-contrast viewing filter — though you still need to be quite careful, as these generally do not filter out all of the UV radiation,



It's up to you to work with the sun and its movement to maintain continuity of look.

Bottom: The sun's compass headings and its angle from ground to sky (or "azimuth").



Any gel you use on a mirror will be double its strength because the light passes through the gel twice — so, a ½ CTO filter on a mirror will have the effect of a Full CTO.

which can do much damage to your eyes. Both of these tools are also great for cloud-watching (as they do filter out quite a bit of the harmful radiation of *indirect* sunlight, though you should still be cautious), so you can estimate when moving clouds might cover or uncover the sun.

Harnessing the Sun

Indirect natural light can also be your friend. Open shade — where the sun is blocked but you still have plenty of ambient light — can be the most beautiful soft and directionless light. Knowing when the sun will be on the opposite side of a building, you can place your shooting area in

open shade. This is a simple way to achieve an elegant look.

Reflectors, bounce cards or boards and mirrors are phenomenal tools for working with daylight. Even if you're shooting interiors, bounce material outside the windows can help extend natural daylight into the location. Northern-exposure windows might never get direct sunlight, but the area outside the windows may be in direct light all day. Judiciously placed reflectors or bounce material can redirect that light into your location fairly consistently throughout the day as long as your grips move the tools in tandem with the sun. I'm a big fan of mirrors because they allow me to reflect hard, direct sunlight wherever I want it — though the struggle is that mirrors must be closely monitored and adjusted all day long as the sun moves. A more diffuse reflector doesn't require such constant monitoring.

Shiny boards, mirrors, bead-board, foamcore, muslin, Grid Cloth and Ultrabounce are all excellent tools for bouncing or reflecting sunlight.

Magic Sun Theory

Though there are no steadfast rules

about how to shoot in sunlight, many cinematographers prefer to position their shots so the sun will backlight their subjects. So, if you're shooting in the early morning, your talent would be facing west (away from the sun), and in the late afternoon, they would face east. Light around noon in summer

can be the harshest because it's directly overhead, giving the talent deep eye-socket shadows and chin shadows.

Therefore, cinematographers will often "chase" the sun, keeping the talent backlit all day long by rotating the camera position to face the sun. (Your talent will also thank you for this because they'll be squinting less.) At the height of the day, soft silks overhead can diffuse the harsh sunlight, and adding reflector bounces behind the talent can continue the look of natural backlight.

But what happens when you have two characters facing each other? What if it's a gunfight at sunrise?

Let's say you're shooting a scene in which two cowboys square off on Main Street. This means one character can be backlit by the sun, but the other will be front-lit. Many cinematographers would shoot it this way because it's realistic, but it's not necessarily the best look. In fact, it can be jarring and even visually uncomfortable to have one character in lovely backlight and the other in harsh frontal light — it doesn't *feel* right.

A more refined look is to have *both* characters backlit. Amazingly, this *looks right* to the audience.

Because both characters are in the same quality and type of light, the audience doesn't question it. This is known as the Magic Sun Theory: The sun "magically" moves where the cinematographer wants it to be, even within a single scene.

Using this theory, you can shoot one cowboy and all angles facing him in the morning, with the early sun backlighting him, and then shoot the other cowboy in the afternoon, with backlight now positioned just right from this new position.

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ALL DAY,
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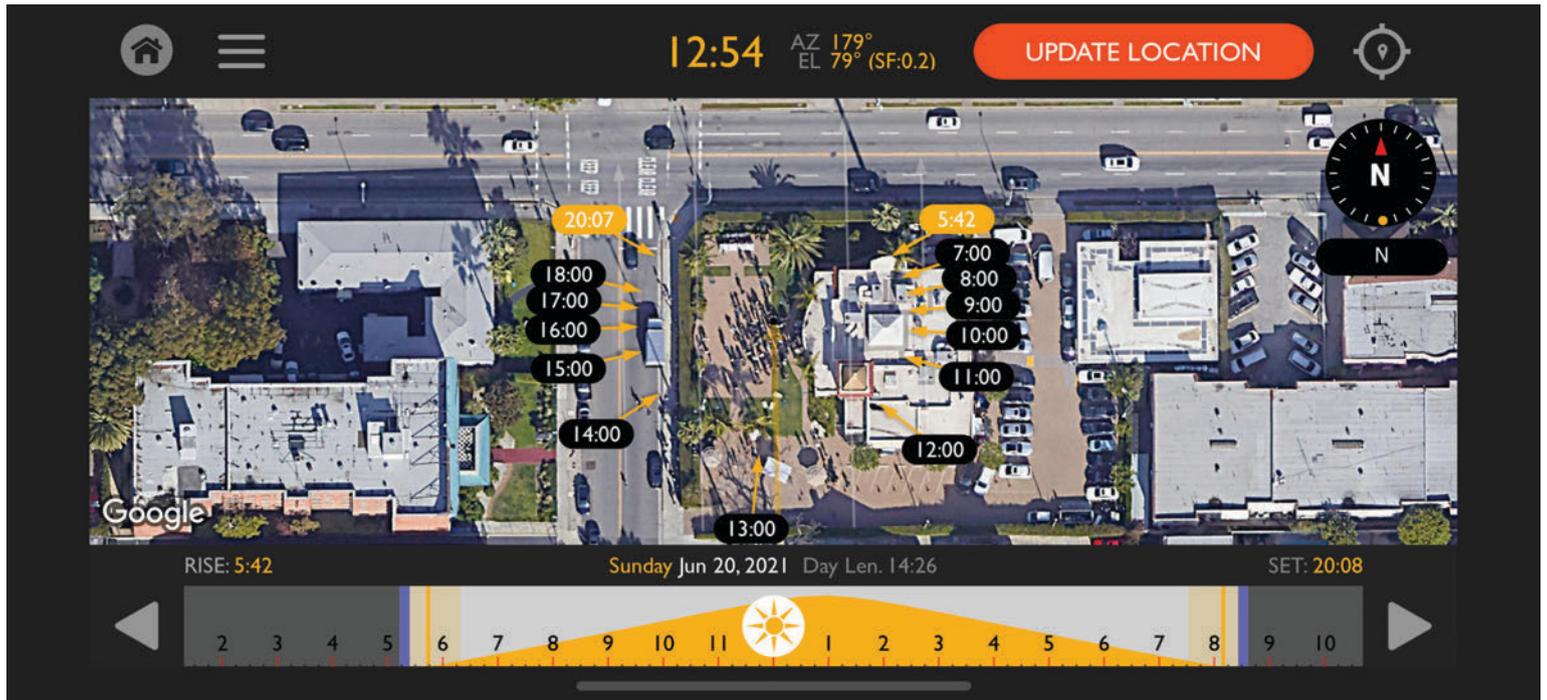
“Whether you have 50 million dollars or five thousand dollars, time is still of the essence. Production always wants to know, can we do it - can it get done in the 12 hours. I can stay on that zoom all day, all week, all episode. Wherever I was on the lens, it felt like a prime. You can go all the way to the wide end of the lens and it holds true, as well as all of the focal lengths in between.”

JOE “JODY” WILLIAMS
CINEMATOGRAPHER



Shot Craft

A screenshot from Chemical Wedding's Helios Pro sun-tracking app, which presents the direction of the sun's rays at specific times during a specified day.



As much as this might feel like a continuity cheat, it's the consistent quality of light on the actors that makes this look and feel right.

Softening the Sun

Using overhead silks or diffusion

(Grid Cloth, Silent Frost, Silk, etc.) to soften direct sunlight can create a problem in your background: The light on your subject has a nice soft quality, but it's a lower exposure because some light is lost to the diffusion, so the background is receiving

hard, hotter light. Depending on your shot size, depth of field, and the movement of the camera, you may be able to incorporate a single or double net in the background behind the talent to help take down the intensity of the background a bit. This is placed in shot. If it's just slightly out of focus, beyond the depth of field, the net will disappear and merely act as a large ND filter for the background. I've always carried 20'x20' single and double nets for this purpose.

Interiors With Natural Light

When shooting interiors, sometimes there isn't enough daylight to get good exposure, or you need to balance the exposure of the inside with the exterior light visible through the windows, and you must add light. If you have bi-color LED fixtures or daylight color-balanced lighting, great! But the independent cinematographer is often limited to the

least expensive fixtures available, and that's typically tungsten. A 2K is the largest fixture you can safely plug into a standard outlet, and you might think you can use CTB gel on a 2K tungsten fixture to color-balance it for daylight. However, when you do that, you cut the light's output by 25 percent (2 stops less). You're already using a weaker tungsten light to counteract bright light from outside the windows, and now you're turning your 2K into a 500-watt. That isn't going to work.

The better bet is to gel the windows with CTO, which converts the daylight to tungsten color balance. This will also knock down the light outside the windows by $\frac{2}{3}$ of a stop, helping further.

That doesn't stop you from using mirrors or reflectors outside to push light into the room, but now, if you must use tungsten fixtures inside, you can use them at full power and have more light to counteract the

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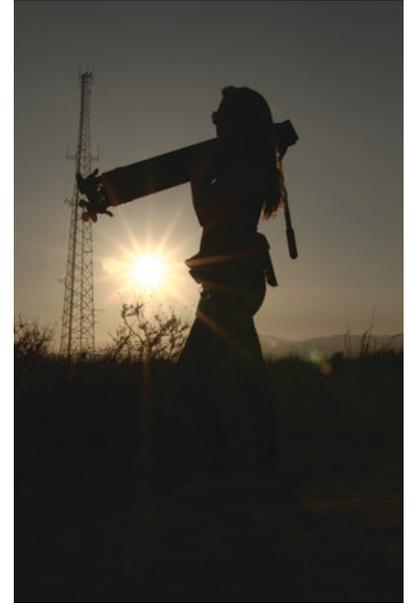
One last tip: I've sometimes put CTO or CTB on a mirror to bias the color of reflected light coming into a room. Maybe I want to warm up the reflected hard mirror light against the cooler ambient daylight to have warm sunset streaks. If you do this, just remember that any gel you use will be double its strength because it affects the light color (and light intensity) twice; the light passes through the gel once before it hits the mirror, and then it bounces off the mirror and bounces back through the gel again. So, a 1/2 CTO filter on a mirror will have the effect of a Full CTO.

Worthy Challenge

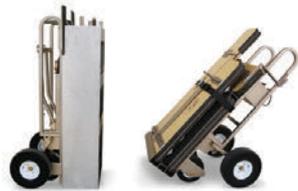
I've often said that one of the hardest jobs for a cinematographer is the daylight exterior. That might sound strange, but maintaining a consistent look over the course of a day or even days requires every tool in the cinematographer's arsenal. Spending a full day (or two or three days) shooting a day-exterior sequence that will only last a moment onscreen can be some of the most challenging work you'll ever do. Take a deep breath, plan out your day, and hope that Mother Nature is on your side.

Using open shade is a simple way to achieve an elegant look.

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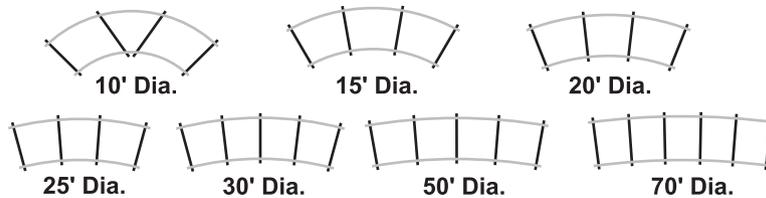


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A Musical Block Party

In the Heights, shot by Alice Brooks, celebrates a New York neighborhood's vibrant culture.

By Samantha Dillard

Cinematographer Alice Brooks' collaboration on *In the Heights* with director Jon M. Chu and choreographer Christopher Scott was a creative pinnacle the trio had unknowingly been climbing toward for their entire careers. The project itself, a feature adaptation of the Tony Award-winning stage musical by Lin-Manuel Miranda and Quiara Alegría Hudes, had also been two decades in the making; Miranda completed his first draft of the piece in 1999, while he was still a student at Wesleyan University.

The story's plot centers on a part of New York City that is rarely explored or celebrated in the media: Washington Heights, a predominantly Dominican and Latinx neighborhood in the uppermost part of Manhattan. It's a section of the city that's "made of music," according to the movie's protagonist, Usnavi (Anthony Ramos), and Miranda himself, who explains to *AC* that the area has that reputation "because it's loud! That's literally the inspiration for the musical — my neighborhood has more music in it than everybody else's."

Chu was attached to the project in 2016, prior to the success of his feature *Crazy Rich Asians*, and he asked Brooks to join him on the feature while the two were working together shooting the pilot of the Apple TV Plus series *Home Before Dark* (*AC* July '20). Brooks was the right cinematographer for the job, he says, because *In the Heights* was the culmination of two decades of "our friendship and our creative collaboration together." They had previously worked together on the musical drama *Jem and the Holograms* (*AC* Nov. '15), but had known each other since they were undergrads at the USC School of Cinematic Arts. "Alice was like a legend at USC film school," Chu says. While still a junior, Brooks had written a script for one of the four thesis films selected to be made, and also served as the project's cinematographer. "Everyone was like, 'Who is this person?'" Chu recalls. "I said to myself, 'I need to work with her.' But she was way cooler than me; I was the nerdy guy who



IN THE HEIGHTS PHOTOS BY MACALL POLAY, COURTESY OF WARNER BROS. PICTURES.

Usnavi (Anthony Ramos) and Vanessa (Melissa Barrera) get festive with their neighbors in Washington Heights.



Left: Cinematographer Alice Brooks at the camera. Right: Her collaborator of two decades, Jon M. Chu (left), on location with producer Lin-Manuel Miranda.



“In the Heights is the visual culmination of our 20 years working together.”

liked musicals.” However, when Chu was a senior, his project — a musical — was selected, “and the only person I wanted [to shoot it for me] was Alice.”

They met up at a Starbucks, and Chu was delighted to discover that Brooks was also an avid fan of musicals. “I love everything about them,” she says. “I grew up watching Fred Astaire and Ginger Rogers, and *The Sound of Music* and *My Fair Lady*.” Given their mutual appreciation for the genre, the duo decided to collaborate on Chu’s thesis, *When the Kids Are Away*. Says Chu, “We’d literally been training for *In the Heights* since that day at Starbucks when we talked about why we love musicals. When words weren’t enough, the camera and the shots could put you in a seat that only the cinema could take you to.” Adds Brooks, “If you watch that short, you can see how *In the Heights* is the visual culmination of our 20 years working together.”

They first teamed up with choreographer Scott while collaborating on three seasons of the web series *The Legion of Extraordinary Dancers* (aka *The LXD* — see *AC* Oct. ’10). “We did experiments on those episodes, [which] spanned all genres — from film noir to Westerns to horror, all of which were 90-percent dance,” Chu says. “We made a lot of mistakes, but we also found things that we couldn’t have found [otherwise]. It was a laboratory for us.”

Meanwhile, Miranda’s career was skyrocketing following the Broadway run of *In the Heights* and the cultural phenomenon *Hamilton: An American Musical* — which has won 11 Tony Awards and now holds the record for the most Tony nominations, with 16. Miranda has also earned more than a shelf’s worth of individual awards for his work, including a Pulitzer Prize, two Laurence Olivier Awards, three Tonys, three Grammys, an Emmy, a Kennedy Center Honor, a MacArthur Fellowship “Genius Grant,” and an Academy Award nomination for his contributions to the Disney animated musical *Moana*. “Film was my first love,” he tells *AC*. “Before I fell in love with theater, I was making movies. I grew up in my grandfather’s video store, Miranda Video, in Vega Alta, Puerto Rico. To be

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Chu supervises a dinner sequence shot on location in a 900-square-foot Harlem apartment.



“We’ve got a lot of images reflecting the juxtaposition of big dreams in small places.”

unsupervised in a video store is to be in heaven!”

In the Heights is framed by scenes in which Usnavi tells the story of Washington Heights to a group of children. He encourages them to speak the name of the neighborhood “so it won’t disappear.” To reflect changes to the neighborhood, Miranda has updated the musical throughout its various theater runs, and in the feature adaptation, gentrification looms as an ever-present threat. “You never realize your theme as you’re writing,” Miranda muses. “You’re just so fascinated by what you’re writing, and then the themes start to emerge. But legacy, I think, emerges as powerful in both [*In the Heights* and *Hamilton*]. ‘Who tells our story when we’re not here anymore?’ Usnavi speaks to that in the finale of the show, and *Hamilton* is all about that in 50 different ways.”

The medium of film, he adds, further enhances this theme. “Film is forever. And that’s kind of thrilling, right? I’ve been lucky enough to act for film and act for theater, and when you’re acting for theater, your masterpiece is devoured that night, and you’re going to make it again the next night. But with film, you’re sculpting in marble, and the camera does that. The relationship to the camera is something I’ve thought about so much, particularly in my medium — the medium I’ve spent my life trying to get good at — which is telling stories with music. There’s a higher suspension of disbelief required when you’re in a movie, because the world looks more naturalistic than it does when you’re on the stage.” With a laugh, he adds, “There’s lots of ways to do it right, and there’s lots of ways to do it wrong.”

Film also allows for Washington Heights to emerge as a more prominent character in the adaptation, as the movie was shot on location. “What’s wonderful about how Jon and Alice work is that they’re meticulous planners who also allow for the magic to happen,” Miranda says. “And if there’s magic happening on their set, they point their camera in that direction. There are beautiful candid shots of motorcycles going through our frame, and kids opening hydrants on their own, that have nothing to do with our production! [There are even shots of] people hanging out of windows, watching [us make] our movie. And, yeah, we’ve got to go up and get a release from that person, but they’re in our movie now, because they’re part of [the neighborhood] and they’re here. There’s a beautiful shot of Vanessa [played by Melissa Barrera] running down the street, and Jon and Alice’s addition is the fabric that she sees in her mind — these tapestries [start] coming down [from the sky] as she runs. [Their collaboration takes] it to the next level. This could have been like a cheap indie musical, but at every stage, Jon chooses the most cinematic choice. [He asks], ‘What can’t we do on stage at the [Richard] Rogers [Theater]?’”

The result of that ambition is a visual feast of color and movement featuring Busby Berkeley-style synchronized dance sequences in the Washington Heights Highbridge Pool; stirring, intimate moments with neighborhood residents fantasizing about their “el sueño” (little dream); and a “Carnaval del Barrio” celebrating the many Latinx cultures within the neighborhood. Chu says he and Brooks used art installations within cities as an inspiration to answer, in visual language, the



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Vanessa tries to entice Usnavi to join her on the dance floor of a nightclub.



Losing Power

“The theme of ‘Blackout’ is being powerless and not being able to control your future and the world around you. And that’s when relationships become really important — when we are powerless. I think this past year has really shown that we all now understand what being powerless means, to an extreme degree. And these lyrics were written in 1999, because certain communities do feel powerless. This movie was supposed to come out last summer, and I think it means so much more now than it would have then.”

— Alice Brooks

question of “How do dreams feel?” In conveying the characters’ dreams, he and his collaborators chose to ground the fantasy sequences in their real locations. “We weren’t cutting to a beach or a mansion [in those moments],” he says. “The mansion comes to the streets, so for Vanessa, the drapery comes to the buildings. We’ve got a lot of images reflecting the juxtaposition of big dreams in small places; big hearts in small places; grand feelings in intimate proximity. This is how we tried to build the dynamics of our space for the movie: where the audience was going to sit with us, and how close and how far [from the onscreen action] we could be.”

“The Club” / “Blackout”

Three striking musical sequences occur around a power blackout in the middle of a heatwave, when the characters are literally and emotionally “powerless.” The first two of these, aptly dubbed “The Club” and “Blackout,” are preceded by a tense community/family dinner in an apartment as Usnavi and Vanessa prepare to go on their first date. The nighttime sequence was shot over two days in very tight quarters — a 900-square-foot apartment in Harlem. Brooks notes, “The intention of the scene is this promise of a really exciting, really great night. It turns [tragic], but that was the initial promise. The intention of the camera is for the audience to feel like they’re at the dinner table with everyone — that they’re

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Left: In the phantasmagorical musical sequence “Paciencia y Fe,” set in a subway, Abuela Claudia (Olga Merediz) reflects on her life as an immigrant from Cuba. Right: Chu directs Merediz while shooting the sequence.



Reteaming on Tick, Tick... Boom!

Following the production of *In the Heights*, Lin-Manuel Miranda and Alice Brooks teamed up again, on Jonathan Larson’s musical *Tick, Tick... Boom!*, Miranda’s feature-length directorial debut. “I saw how well Alice and Jon worked together,” Miranda says. “I could see that it was a true partnership, and that was exciting to me. I also saw the magic she was creating with Jon. *In the Heights* and *Tick, Tick... Boom!* could not be more different musicals — in tone, in the stories they’re trying to tell, full stop. When I got to sit down with Alice to talk about *Tick, Tick*, she said, ‘My father was a playwright. We lived in New York and moved in 1990.’ And I was like, ‘I really don’t know how else you could be more qualified.’ She has a lived experience of the Village [during that] time and from the same angle that I did, which was as a child. We were both 10 years old in that era. I knew she would make it look like I wanted it to look. And we just had an amazing time making the film together. We would shake our heads while we were shooting these musical sequences and go, ‘Why do people want to make anything but musicals? They’re so much f---ing fun!’ I’m so happy she’s been able to do this double whammy, going from *Heights* straight to *Tick, Tick* with me.”

Tick, Tick... Boom! is scheduled for release on Netflix later this year.

not observing, but actually participating as one of the community members seated at the table with everyone else. We wanted [the tone of the scene] to feel very warm. Jon grew up around food, so [for him], food is nourishment and showing your love and respect for other people. At the beginning of the scene, we wanted to invite all of those sensory experiences of food, so we did all these detail shots of food, mostly lit with practicals. We did a lot of long-lens shots — over people’s shoulders or in between people — with 10 people at a dinner table for a scene that plays for nine minutes of screen time. It was hot, and it was intense.”

The apartment shots are juxtaposed with a crane shot that pulls back to reveal a vibrant, fast-paced night of clubbing, with dancing and drinks, after Usnavi and Vanessa embark on their date. The nightlife sequence was shot at a club in Manhattan’s Chelsea neighborhood; in an effort to be economical and expedient, the team used many of the venue’s existing lighting units, which were already programmed into a dimmer board. Brooks met with theatrical lighting designer Christina See to pick the setting’s predominant colors: rust, amber and an occasional cyan light that panned through the club. “We wanted to make sure there was a cool color somewhere so that you always feel the warmth, instead of just getting used to it,” she says. “We programmed all the light cues to be locked into the timecode of the music track.

“At the club, our characters are experiencing all of this internal turmoil, and their confusion and frustration play out in the music and the dance,” Brooks continues. “The moving lights [of the club] bounce off reflective surfaces, creating this chaos. We use a lot of crane shots and Steadicam as we flow through the space, but it’s really about these two people who just can’t quite get together. Then, as the lights go out, we cut



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Below: Abuela Claudia grabs a “subway pole” created with a beam of light. Opposite: Pondering her mortality as she approaches the subway’s exit.



to an exterior helicopter shot [from a perspective] north of the George Washington Bridge, facing south, and you see all of the lights in Washington Heights and northern Manhattan shut off, with the rest of the city’s still on.”

The scene cuts back to the club, where the patrons have turned on their cellphone flashlights to illuminate the space. This part of the sequence was lit solely with practical cellphones, Brooks says, and the camera strategy switched to handheld coverage to convey the panic of the blackout. “The choreographers would stand next to the camera with flashlights, and two [members of the] choreography team would pan different lights [in sync] with the cellphones in the exact right count,” she says.

The action then takes a slight respite as community members return to the apartment of Abuela Claudia (Olga Merediz) — where they interact



amid a warm palette created with candles and colored glass atop cellphone flashlights, complemented by LiteGear LiteMats — while people on the street below are bathed in the glow of fireworks illuminating the neighborhood. “175th Street is right outside Abuela’s window, and you can see Audubon Avenue,” Brooks notes. “We put two or three SkyPanel 360s on each rooftop at that intersection and all the way down the block to the next street, in both directions. Some SkyPanels created our night ambience that was set to 4,700 Kelvin, and the others provided our fireworks effect.”

Brooks and her family took a trip to Disney World prior to starting work on *In the Heights*, and despite being on vacation, she saw an opportunity to study the light patterns of the nightly fireworks at the parks, though she didn’t actually watch the displays. Instead, “I watched my daughter watching the fireworks. And I realized that the white pop was really what sold it because, as we did in the club with the occasional panning of cyan light, the white pop makes your eye not get used to the constant color.”

In the stage production, “Blackout” leads to a crescendo as it closes Act One before the intermission, but due to the differing structure of film, “the music becomes the soundtrack of the night as people adapt and adjust to the darkness that the blackout brings,” Miranda

says. “I’ve been rewriting ‘Blackout’ for half my life, because every time I made a change in the story, I’ve had to rewrite ‘Blackout’ since the development of the original musical. It’s a moment where everyone is careening in different directions as a result of this neighborhood moment, and the movie was no exception. I basically said to Jon, ‘Let me be included in this because I’ve rewritten this a lot of times, so let’s find the best build of the song that leads to the moment you want it to lead to.’ And we knew it was going to culminate in Abuela’s death.”

“Paciencia y Fe”

The musical sequence that follows “Blackout” presents Abuela Claudia’s deathbed song, “Paciencia y Fe.” But, Miranda notes, this arrangement was a direct result of his collaboration with the filmmakers, “because we didn’t find ‘Paciencia y Fe’ to go after ‘Blackout’ until the edit. That was a thing [editor] Myron Kerstein tried out, and it worked beautifully,” he reveals. The song conveys Abuela Claudia’s reflection on her life as an immigrant from Cuba as she moves between subway trains from different eras with passengers representing her life in Cuba and New York. “We wanted to bring her out of the subway and slowly tell her story as almost the shadows of her memory, but [in a way that would be] as elegant and beautiful as the stories we tell by a campfire,” Chu says. “We

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Usnavi peers out at the action on the streets surrounding the local bodega.



“Sometimes we have to tell our stories in romantic ways to survive.”

wanted to show how we romanticize [our own stories in] our heads — because sometimes we have to tell our stories in romantic ways to survive. We wanted to reflect that this is her story. It’s not a sad story, it’s a hard story — it’s a struggle story. But her spirit rose above all of that and made it a beautiful one.”

The filmmakers shot the sequence at a large, two-platform abandoned station in Brooklyn with actual vintage subway trains. “Shooting in the subway was a major challenge because we were three stories underground, there were no elevators, and we had enough lights and cable for a whole theater,” Brooks explains. “It was so hot down there; the air was so thick and we needed to bring atmosphere down there, too. The sequence involved a massive number of lighting cues, and we didn’t have a pre-light day. We just had a test on a stage.” The color palette represented Abuela Claudia’s two residences — Cuba was warm, and New York was cool.

When the team found an appropriate tunnel lined with vibrant graffiti at the 191st Street subway station, they knew it was the right place to end Abuela Claudia’s song. “It took a while to figure out how we were going to transition [from the fantasy sequence] back into the subway car [in reality],” Chu says. “And it was Alice and gaffer Charlie Grubbs who suggested, ‘What if we just put up a light on the subway set that looks like a subway pole, and when she touches it, we’re back?’ And it was just so beautiful, so elegant, the way that pops back [into an actual subway pole] and moves into the 191st Street tunnel.” The tunnel was

900' long and “we had Chroma-Q Studio Force IIs every 5 feet apart, all the way down the tunnel, set up on either side,” says Brooks. “But the most magical thing was that it was over 100 degrees that day and very humid, and the tunnel was literally sweating. The whole tunnel was wet down by Mother Nature, and it glistens with the light because it’s just sopping wet.”

In the edit, when the filmmakers considered moving this sequence to mark Abuela Claudia’s death, Miranda saw how it could work. “There’s one additional piece of music inside the original song, and I said, ‘If you cut this, it works perfectly;’” he says. “She sings, ‘I made it through, I survived, I did it. Now do I leave or stay?’ And in the original song, she would [continue], ‘I buy my loaf of bread, continue with my day.’ And if you just cut that part out and leave her with that question as the last thing she’s wrestling with, then we understand everything. We actually understand that it’s a bigger question. ‘Leave or stay’ is not DR or New York; ‘leave or stay’ is earth or the next place. So literally through that edit, just cutting the next section of music makes the question much more profound.” ◊

Local Tribute

The film’s end-credit sequence shows a number of pictures of Washington Heights taken by local photographers. “We wanted to give a forum for the local people to show how they saw their neighborhood,” Chu says. “All of those pictures were taken by local photographers and inspired us while making the movie; we would talk to them about the images, where they got them, and how they see them. Using their images in the end credits is beautiful. It’s one of my favorite parts of our movie. After watching our interpretation of this fantasy world that Lin wrote his musical about, getting to see the neighborhood through their lens was pretty special to me.”

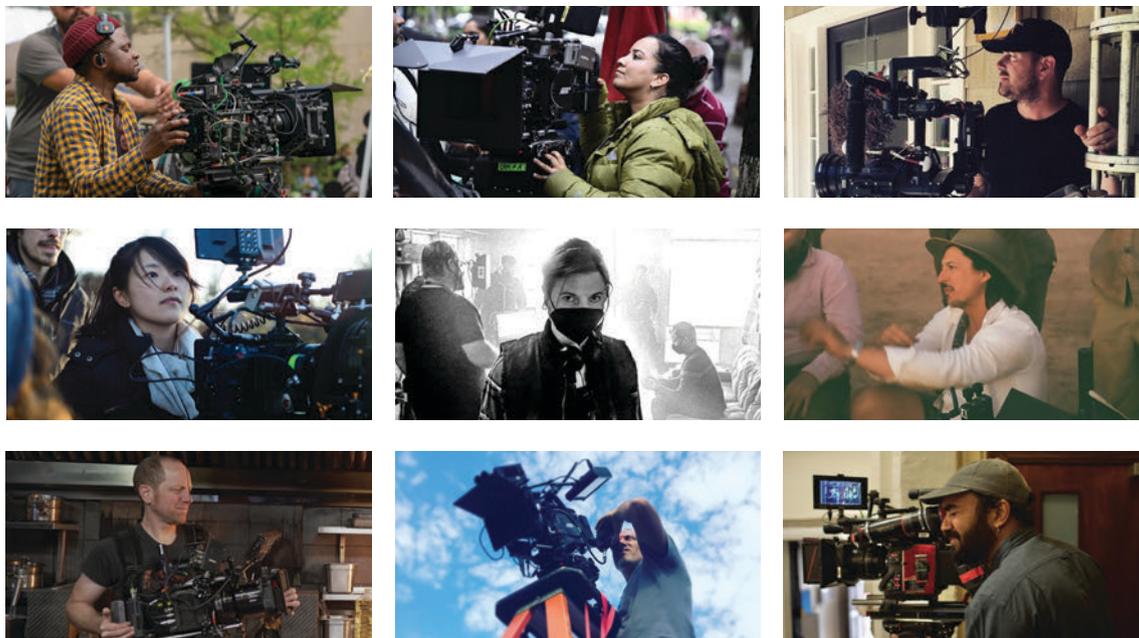


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AC's 2021 Rising Stars of Cinematography



American Cinematographer inaugurated our annual Rising Stars of Cinematography feature in 2017. Since then, we've watched proudly as various Rising Stars alumni have continued their upward-trending career trajectories, producing acclaimed work that has confirmed the creative potential that led the magazine to spotlight their early achievements. Two from that first group of Stars have since become ASC members — Quyen Tran (see page 71) and Kira Kelly — with more surely to follow.

This year's roster was selected by the magazine's editorial staff with informed input from a trio of accomplished ASC members who know talent when they see it: Amelia Vincent, Eric Steelberg and "Risen Star" Kelly. Our collaborative deliberations have produced another diverse group hailing from a wide variety of backgrounds, but common touchstones are their passion for cinematography; their boundless enthusiasm for creative expression; and their admiration for the ASC, its members and their work.

Our new format presents each cinematographer's key credits along with information about their training and education, awards and honors they've earned, artistic influences, lessons they've absorbed on their career path, thoughts on the craft and the collaborative nature of their chosen art form, and recent accomplishments, as well as details about current and future projects.

Without further ado, we present this year's honorees: Archana Borhade; Bruce Francis Cole; Shabier Kirchner; Hillary Fyfe Spera; Ross Giardina, ACS; Todd Antonio Somodevilla, SOC; Daphne Wu; Cale Finot; and Tobia Sempì, AIC.

— Stephen Pizzello, Editor-in-Chief

ARCHANA BORHADE

Key credits: *Ashes on a Road Trip* (aka *Karkhanisanchi Waari*), *Idak: The Goat*, *Phuntroo*, “Closing the Crop Gap” (social campaign)

Awards/Honors: First female cinematographer to win the prestigious Maharashtra State Award, for the Marathi feature *Idak: The Goat*, one of the three features chosen by the Maharashtra government panel to represent the Marathi film industry at the Cannes Film Festival

Training and education: “My teachers at Mindscreen Institute — Rajiv Menon, ISC; M.N. Gnanasekaran; and Venkatesh Chakravarty — were instrumental in shaping my understanding of cinematography. The most important takeaway from their lectures was that cinematography should be used in the service of storytelling and not the other way around.”

Best advice she’s received: “From Santosh Sivan, ASC, ISC: ‘Never obsess over the equipment or the lack of it. Some of the best cinematographic work has been done with absolutely the bare minimum.’”

Recent accomplishments: “I produced, shot and co-wrote my latest film, *Ashes on a Road Trip* [aka *Karkhanisanchi Waari*], a quirky comedy about a dysfunctional joint Indian family taking an eventful road trip to fulfill the last wishes of its recently deceased patriarch. It was the only Indian film to be selected for a world premiere at the 33rd Tokyo International Film Festival. Thereafter it was selected for film festivals in Shanghai, London, Toronto, New York, Los Angeles, Stuttgart and others, and it continues to travel the festival circuit. Though I couldn’t travel with the film due to pandemic restrictions, I am grateful for all the heartwarming messages I received from the patrons of the film, who said that they identified with the characters and conflicts portrayed and felt like they were watching their own family onscreen.”

Current project: “I’m pitching a feature film and a web series that I co-wrote and intend to shoot. I am also in conversations to direct and shoot an indie science-fiction film.”

Important career initiative: “I’m part of the Indian Women Cinematographers’ Collective [IWCC]. We are a group of craftswomen/technicians from the film industry who have come together to provide a platform for showcasing our work and encourage budding talent. The team members share their experiences, discuss technical equipment, and try to resolve each other’s queries. It also serves as a safe, nurturing forum for addressing any individual concerns or troubles. I am constantly in awe of the incredible talent in this collective and continue to learn from them every single day.”





BRUCE FRANCIS COLE

Key credits: *Queen Sugar* (Seasons 5 and 6), *Farewell Amor*, *Jinn*, *A True Crime*, *A Gringo Honeymoon*

Awards/Honors: 2010 Kent Film Festival Cinematography Award for *Earthwork*, presented by ASC member Julio Macat; 2015 nomination for Best Cinematography in a Short Film (*A Gringo Honeymoon*), Madrid International Film Festival

Training and education: “As far back as I can remember, I was always placed in advanced art classes and programs for inner-city kids. Growing up where I’m from, I benefitted greatly from those afterschool programs, and teachers who felt that my gift was special enough to pull me out of my surroundings. My mom agreed to let me go study at the University of North Carolina School of the Arts’ School of Filmmaking, where my discipline became cinematography. I eventually went on to study at the American Film Institute.”

Key lesson: “One of the most influential lessons I learned early on, as an undergrad, was the art of the basic visual languages, taught by a Hungarian film instructor named Janos J. Kovacs. He had us start with the fundamentals of designing photo-romans. Learning how to tell a story with just 8-10 images taken with a stills camera was key to understanding the craft of cinematography.”

Recent accomplishments: “After showcasing the feature *Farewell Amor* at Sundance 2020 to great reviews, I landed a position as alternating DP on *Queen Sugar* Season 5, executive-produced by Ava DuVernay for the OWN Network. Covid interrupted the normal shooting season, but we recently completed Seasons 5 and 6.”

Current project: “I’m in prep for a pilot that’s still being kept under wraps.”

Artistic influences: “Over the years I’ve noticed that my natural instincts have always led me to a place of bold expression. I am very appreciative and aware that in filmmaking, the story comes first. As much as I may want to get really expressive with the tools I’ve been given, I know that it takes a certain ‘dialing back’ so that the story is always served best, instead of building off an instinctual ‘microwave epiphany’ moment. [But] as much as I love cinema where the storytellers and the technique become invisible, I would like to make films that really embrace the experimentation of the technique. I have to honor who I am and the unique qualities I bring to the table, and anchor my craftsmanship in that truth.”

SHABIER KIRCHNER

Key credits: *Small Axe*, *Bull*, *Skate Kitchen*, *Only You* (2018), *Sollers Point*

Awards/Honors: BAFTA Television Craft Award, BSC Award nomination, L.A. Film Critics Association Award, New York Film Critics Award (all for *Small Axe*); Independent Spirit Award nomination (*Bull*)

Training and education: “I’m largely self-taught. I didn’t receive any formal training or go to school for cinematography. I mainly learned from jumping in headfirst and just doing it.”

Key lesson: “On the set of *Small Axe*, the mantra for the whole shoot was, ‘Limitations are freedoms’ — in other words, understanding that limitations aren’t crippling, but [can be] creatively freeing. We were encouraged to work with our limitations, as opposed to pushing back on them, and I think that was really profound. Some of my favorite scenes were born from that philosophy.”

Recent accomplishments: “My most recent project is just working on my piece of mind, self-value and whatnot.”

Current project: “In the interim after *Small Axe*, I’m developing a book for a project I will direct and shoot called *Augustown*.”

Artistic influences: “Antigua, my home island, is a place I consider to be a pretty big artistic well that I often find myself drawing from. I’m also pretty inspired by what my peers are doing or have done, which always inspires me to just keep pushing. There’s a lot of value in [working within] a generation and community of people trying to figure it all out at the same time as you. Seeing how some have progressed and discovered their creative voices has been hugely inspiring.”

A fruitful collaboration: “*Small Axe* is, in my eyes, a pretty monumental achievement as far as my achievements go. [Director] Steve McQueen has always been a North Star for me as an artist and filmmaker, so to be able to work with him was something that I never thought would happen. I’ll always be incredibly grateful for that opportunity. Also, the stories that we’re telling are stories of my ancestry, of West Indian culture, which means a lot to me. To be a part of bringing those stories to life on screen is just incredibly special.”





HILLARY FYFE SPERA

Key credits: *Dexter* (2021), *The Flight Attendant*, *Run*, *The Craft: Legacy*, *Wildlike*, *After Tiller*, *Oxyana*

Awards/Honors: *After Tiller* won Best Documentary Emmy in 2015; *Wildlike* earned a Gerald Hirschfeld, ASC Award for Cinematography at the 2015 Ashland Independent Film Festival in Oregon

Training and education: “For me, it all started with still photography. Other than a class in high school, I was never formally trained. I never went to grad school for cinematography. I learned by shooting everything I could get my hands on, saying ‘YES’ to whatever came my way and seeing where it took me. My training was by doing — embracing mistakes as opportunities to learn.”

Key lessons: “Always keep the other eye open — figuratively. Just stay aware, tethered to the ground, and engaged. I try to do everything with a wide-open heart, and for me it’s good advice to not get too stuck in ‘tunnel vision.’ We have to be experiencing the world and taking part in it to reflect and connect to it in our work. I love the challenge of finding beauty in the unlikely moments. They’re everywhere, so I keep an eye open for them.

“Also, as cinematographers, we’re only as good as our team — we are not doing this solo. It takes a team, with every part simultaneously functioning together. I work for my crew — they are my family. I want everyone to be empowered, and I try to foster an environment that allows them to do their best work.”

Artistic influences: “[ASC members] Harris Savides, Gordon Willis and Vilmos Zsigmond, and Robby Müller [NSC, BVK]. The films of the ‘70s.”

Memorable moments: “I am extremely proud of my team on *Dexter*. This past winter, we did 60 straight days of exteriors in below-freezing weather. The camera department had to access most locations via sled! It was our *Fitzcarraldo*, and the crew [handled it] with incredible patience, professionalism and grace.”

Current project: “Right now I’m working on the new season of *Dexter* for Showtime with a few of my favorite frequent collaborators: director Marcos Siega, camera operator Tom Fitzgerald, and 1stACs Andrew Juhl and Kali Riley.”

ROSS GIARDINA, ACS

Key credits: *Gold*, *Catch the Fair One*, *Carl's Motel*, *The Dressmaker* (2nd unit)

Awards/Honors: Camerimage Jury Award nomination for Best Cinematography in a Music Video (“Some Minds” by Flume) and Camerimage Golden Tadpole nomination in the Student Etudes competition (*Legend*); a dozen ACS Awards for numerous projects from 2009-2018 in various categories

Training and education: “I studied in Prague in 2003. After that I started shooting music videos and fashion films; learning for me has always been about doing. I shot a lot of film at the time, slowly building experience with the process and collaborating with directors. Being nominated at Camerimage for Best Cinematography in a Music Video seemed to open a lot of doors for me, as people then saw my body of work.”

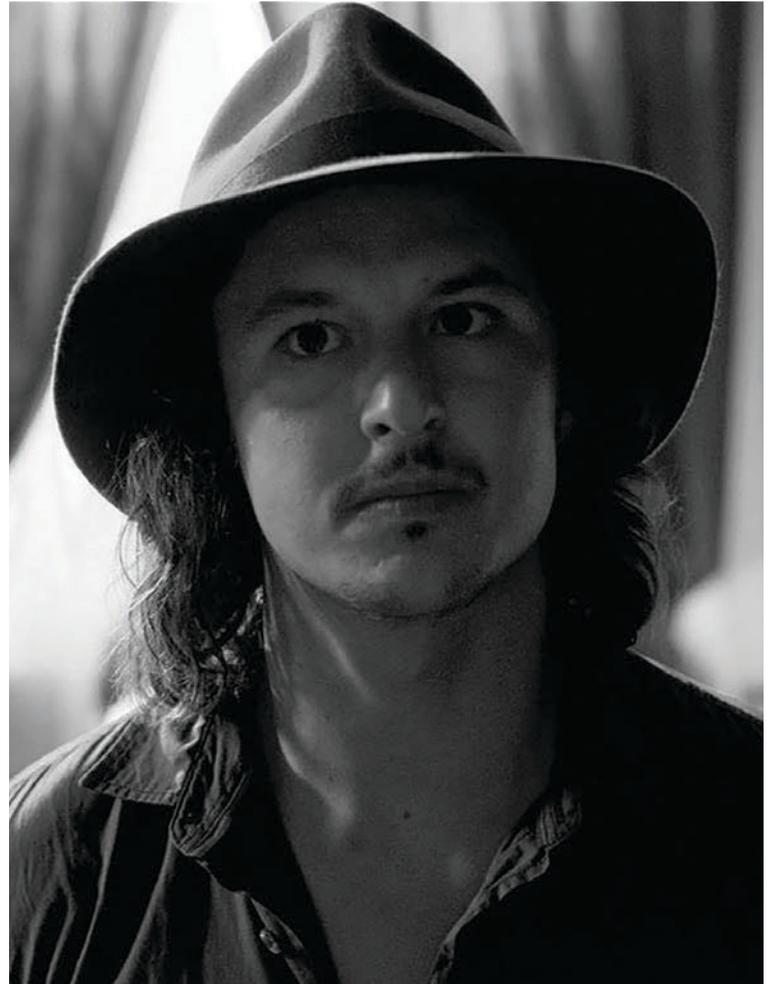
Best advice he’s received: “There is no such thing as a big or small movie — just a good movie.”

Artistic inspirations: “I’m inspired and driven not just by film but by art, photography, and the parallels between life and art. Film language that pre-dates popular culture also inspires me greatly.”

Recent accomplishments: “I recently shot the upcoming feature *Gold*, directed by Anthony Hayes and starring Zac Efron. It’s a post-apocalyptic film that addresses greed, capitalism and the human condition, shot primarily in the desert with a lot of day exteriors. One challenge was installing tone and texture throughout while not deviating from supporting the story, while shooting some sequences over a few days and planning accordingly. Lensing, composition and camera movement were very important to create tension; embracing frontlight to enhance the main character’s journey was a leap for me. It was important to root the camera and hold on the character’s perspective, and to allow the pacing to be languid and real. This meant very long takes and minimal coverage, as opposed to gratuitous cuts to pain and anguish.

“Also, a film I shot in Buffalo, N.Y., *Catch the Fair One*, recently premiered at the Tribeca Film Festival and won an Audience Award. It’s directed by Josef Kubota Wladyka and produced by Mollye Asher, who also produced *Nomadland*, and Darren Aronofsky.”

Dream project: “I’m interested in both historical and present-day social issues that are incorporated into stories for films that can portray and elevate [those issues] with an execution that provides a heightened realism and a ride for the audience.”





TODD ANTONIO SOMODEVILLA

Key credits: *Happy!* (Season 2); *Yes, God, Yes; An American Pickle* (additional photography); *Can You Ever Forgive Me?* (2nd unit); *Embers*

Awards/Honors: Best Feature Film, Newport Beach Film Festival, and Best Narrative Feature, New Orleans Film Festival (*Embers*); Best Film, The Creative Floor Awards (“Novartis” commercial); Platinum Award, AVA Digital Awards (“Nemours Children’s Health System” commercial)

Training and education: University of Southern California School of Cinematic Arts

Key lessons: “When it comes to lighting, keep it simple.” “Fill the frame with beauty.”

Artistic inspirations: “Stanley Kubrick for his compositions. Harris Savides [ASC] for his naturalistic lighting. David Lynch for his twisted view of reality and his beautiful mind. Noah Hawley and Dana Gonzales [ASC] for their vision of [the series] *Legion* and *Fargo*. Douglas Trumbull and Richard Yurich for their ability to create altered realities from scratch.”

Recent accomplishments: “I shot a film called *Yes, God, Yes*, a coming-of-age story about a female Catholic school student who has a very funny and charming sexual awakening. The lead character, Alice, played by Natalia Dyer, doesn’t talk a lot in the film, so writer-director Karen Maine and I had to find a way to capture her expressions while also making her environment seem very present and almost oppressive. Finding that balance while telling her story was the biggest challenge and most rewarding result. We created our own subtle look with the help of Panavision (Marni Zimmerman and Robert Presley, who provided custom detuned lenses), the post house in Atlanta (Moonshine Post, which provided a custom LUT), and our colorist at Light Iron, Sean Dunckley.

“I also shot some episodes of *Happy!* Season 2, and that was a crazy, amazing ride. I got to work with some of the most professional and creative people in the industry. I hit the ground running and loved every minute of re-creating the surreal hyper-world born of the graphic novel and the brilliant minds of show creator Brian Taylor and director Wayne Yip. The experimentation we got to do on a daily basis with lighting, camera and VFX — it was like filmmaking on speed. Nothing was too over-the-top.”

Current project: “I’m filming a project over this summer called *Quest for Sleep*, a docu-series about insomnia. We’re going to explore using natural light and bending reality so that we can get into the minds of people suffering from this disorder. I’m going to play a lot with composition and close-focus lenses, trying to capture what it’s like to feel trapped inside a hamster-wheel mind that never rests.”

DAPHNE WU

Key credits: *Accepted*, *Sound of Violence*, *Grasshoppers*, *5th Ward* (Season 1), *The Disunited States of America*

Awards/Honors: *Accepted* premiered at Tribeca 2021, *Sound of Violence* premiered at SXSW 2021

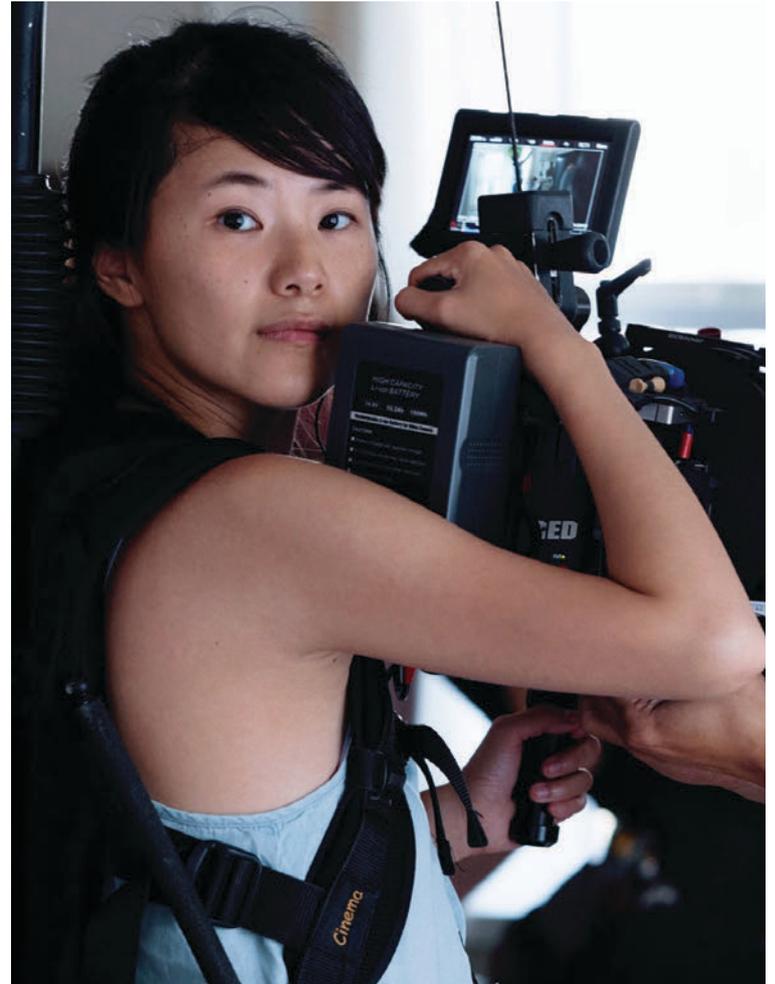
Training and education: “I went to USC School of Cinematic Arts and graduated in 2011. I love that program because they make you try everything. I tried everything and then I was like, “This is it. This is the most fun job on set.’ I have been obsessed with cinematography ever since.

Mentors: “This last year I was in the ASC Vision Mentorship Program. My mentor is Erik Messerschmidt. He’s super encouraging; he’s brought me on as a camera operator before. I’m able to text Erik whenever I have questions.”

First break: “I lucked out and was able to go to school part-time during my last year at USC, so I was just freelancing. It was 2011, everyone was starting to shoot on 5Ds, and you could do a lot with very little, with a young and scrappy crew. I booked a feature right out of college, the same year. It was very low-budget with a skeleton crew, but it was an amazing experience deep-diving into long-form narrative. I think because I had that one feature, it was easier to get others. That’s how I came up. I never really went through the lighting or camera track; I did the ‘no-budget feature as a DP’ track.”

Artistic influences: “My favorite filmmakers are Andrea Arnold and Wong Kar-wai. When I was growing up in Singapore and China, I also read a lot, and that’s always been a major inspiration. Storytelling is all the same — it’s about empathy and trying to understand each other. Filmmaking is a great language, similar to literature in that you’re trying to understand the director or the screenwriter the way you would a book author. It’s about fostering connection.”

Looking to the future: “When you’re in the American film industry, you have to think about the global pop-culture impact. My great-grandmother has watched *Titanic* — that’s how far the influence goes. So, what are we putting out? Are we helping or are we hurting? For me it’s important to work on stories that help. I’ve seen that [happening] the last couple of years with set dynamics and diverse crews and stories. If you’re a storyteller, you’re always saying something. For me, personally, if you’re telling a story, it should be something important and about emphasizing empathy.”





CALE FINOT

Key credits: *Elizabeth Harvest*, *Leopard Skin*, *Jett*, *Project Power* (2nd unit), *Mile 22* (2nd unit)

Training and education: Georgia State University, BFA in Cinematography; Panavision two-year internship program

Key lesson: “I was working at Panavision Hollywood when Matthew Libatique, ASC came in to shoot some tests, and I asked him for any advice he would give an aspiring filmmaker. His response was, ‘Shoot. Shoot every chance you can. You’ll learn more from your successes and mistakes than anyone will ever be able to teach you.’”

“I also credit ASC members Mauro Fiore and James Bagdonas for giving me the opportunities to assist for them, and also to watch how well they maneuvered through the politics of being a DP — which is something people don’t talk about nearly as much as they should, since it’s a big part of succeeding in this business.”

Artistic influences: “I’ve always been fascinated with movies, but it was Fred Elmes, ASC’s work on *Eraserhead* that made me want to be a DP. As with most of David Lynch’s films, the visual storytelling was so creative and mesmerizing that I knew I had to pursue cinematography as my passion and career.”

Recent accomplishments: “I’ve been fortunate enough to shoot for great directors on multiple projects. Over the years, Sebastian Gutierrez has not only been a collaborator, but a great friend. Finding filmmakers who you want to be around for 12 to 16 hours a day is vital in telling great stories. With *Elizabeth Harvest*, Sebastian and I looked to expand upon Vittorio Storaro, ASC, AIC’s color theory by assigning primary and secondary colors to the emotional through-line of each scene. Channeling [Pedro] Almodóvar and [Dario] Argento, we bathed scenes in very bold colors — which was both frightening, due to the permanent nature of using heavy lighting gels, and freeing, as we were fully committed to embracing the look.”

Current project: “I just spent three months in the Dominican Republic shooting the limited series *Leopard Skin*. It was a very interesting case study in isolated or ‘bubbled’ shooting, as the entire project was shot at an exclusive resort on the northern coast. It was an extremely small crew, so I was lucky enough to have some of the best technicians in our industry collaborating with me.”

Dream project: “A 1970s-era car-thief bio told in the style of *Goodfellas*. I might have to pen that one myself, though!”

TOBIA SEMPI, AIC

Key credits: *One Way*, *Aventura* (short film); “Mercedes SUV,” “Genesis Stunt” and “HLN Promo” commercials

Awards/Honors: Various honors for commercials, including a D&AD Award; 2017 Best Daytime Cinematography Award for the short *No Place to Fall*; Fresh Future Carbon Awards for the commercials “Sea Goddess” and “Spaceship Byton”

Training and education: “I had my first go at filmmaking in Italy at the Scuola d’Arte Cinematografica in Genova, and then I enrolled in a Masters program at the London Film School, where I really discovered and fell in love with cinematography. Up to that moment I thought I would be a director. The London Film School was highly practical, and we got to work in every role during the term assignments. That gave me invaluable knowledge of how every department works on a film shoot, and how to communicate with all the heads of departments.”

First break: “I remember early on always being turned down by [commercial] clients and agencies because my reel didn’t have any cars in it, so I decided to take things into my own hands. Together with a director friend of mine, I bought a small model of a Jaguar XK, and with a little camera we filmed a spec commercial for Jaguar. We used tiny fluorescent tubes to create moving-light effects on the model car. We didn’t tell anybody that it was a model car, and nobody guessed it. That little film was very well received and led me to sign with my first agent in the U.K. and then my first agent in the U.S. To this day I still see that film from time to time as a reference in agencies and client briefs.”

Recent accomplishments: “During the pandemic year, I shot the feature film *One Way* with director Andrew Baird, and the short *Aventura* with director Chloë de Carvalho, both of which are in postproduction now. Since then, I’ve been shooting commercials.”

Artistic influences: “I draw some of my inspiration from still photographers. For some projects, I might go to Saul Leiter for his framing and colors, and for something else it could be Daido Moriyama for the texture of his work, or Elliott Erwitt for the ability to capture spontaneity.”

Looking to the future: “I’m looking forward to more narrative work, in film or TV. My dream is to be doing a few narrative projects a year and commercials in between.” ◉



Black Widow Takes Flight

Aerial cinematography enhances Marvel epic shot by Gabriel Beristain, ASC, BSC, AMC.

By Phil Rhodes

A helicopter crested snow-capped Scandinavian mountain peaks back in the pre-pandemic days of May 2019, capturing stunning perspectives for the latest feature in the Marvel Cinematic Universe. North of the Arctic Circle, “even in summer, it’s still properly cold,” says Jeremy Braben, CEO of Helicopter Film Services — who was brought on as aerial director of photography for *Black Widow* to help complement the imagery of the production’s 1st-unit director of photography, ASC member Gabriel Beristain (see page 44). Braben and crew had to work fast, especially when perched on the ice. Helicopters perform best in cool, dense air, but there are “other factors in terms of oil’s interaction with the cold,” he says. “Ice forming on aircraft parts is never a good thing. You can’t stay on the ice for too long without needing to start the engine and get everything up to temperature again. Plus, you need to have a guide to guard against polar bears!”

The project also took his team to Hungary, Morocco and locations within the U.K. Braben notes that work in Morocco was complicated by that country’s blanket ban on drones, but HFS’ reputation enabled him to negotiate special permission to fly an Aerigon drone equipped with a Red Helium camera on a Freelly Systems Movi Pro gimbal.

First, though, the helicopter team was sent to Norway, and to the country’s archipelago Svalbard, which is almost as close to the North Pole as it is to Norway’s mainland. The conventional aerial material for *Black Widow* — now in theaters and on Disney Plus with Premier Access — was shot on the Sony Venice, while visual-effects assets were captured using HFS’ helicopter-rigged Typhon Array — a six-camera configuration that captures expansive, high-resolution background plates. “In Svalbard, we were alternating,” says Braben, who served as the sole aerial operator on the helicopter. “We had two Shotover systems: the K1 with the array, comprising six Red Heliums





Previous pages: A camera helicopter at work among the glaciers in the Norwegian archipelago Svalbard. This page: Natasha Romanoff (aka Black Widow, played by Scarlett Johansson) travels among the fjords.



HELICOPTER AND DRONE PHOTOS COURTESY OF HELICOPTER FILM SERVICES. PHOTO ON THIS PAGE BY JAY MAIDMENT, COURTESY OF MARVEL STUDIOS.

“The main unit was shooting their sequences on the ground very nearby, and we were up on the mountain.”

with 21mm Zeiss CP.3 XD lenses, and the F1 with a Sony Venice.” The Venice lens package included Panavision Primo 70 and AWZ2.3 zooms. “We chose lenses with sharp and distortion-free characteristics,” Braben adds.

With VFX specialists also using the helicopter as a platform for ground photogrammetry, “we had a mountain of material,” he continues. “Our data management was handled by Jeff Brown, the CEO of Brownian Motion, who had to wrangle the data out of the camera systems.” Braben adds that the Sony Venice and the array both supplied material used for photogrammetry.

Svalbard was the most trying location for aerial work, he notes. “Any picture with lots of snow or an Arctic landscape probably involves work in Svalbard,” says Braben. “At 78 degrees north and midway between Norway and the North Pole, it’s an accessible place. A cabin there is allegedly the most northerly permanently inhabited place on the planet. The remoteness does become an issue, but it is generally very geared-up for helicopters — there are fuel deposits on the various remote outposts specifically for use by rescue helicopters.”

With rescue helicopters committed to their emergency role, however,



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The *Black Widow* filmmakers aimed for naturalistic lighting through the windows.



PHOTO ON THIS PAGE BY JAY MAIDMENT, COURTESY OF MARVEL STUDIOS.
PORTRAIT ON OPPOSITE PAGE BY OWEN ROIZMAN, ASC.

Natural Touch

Black Widow takes audiences back in time as it launches the much-awaited Phase 4 feature series of the Marvel Cinematic Universe. The story follows the events depicted in *Captain America: Civil War* (shot by Trent Opaloch; AC June '16), in which Natasha Romanoff/Black Widow (Scarlett Johansson) goes into hiding following the dissolution of the Avengers.

As *Black Widow* opens, Natasha is wanted by the United States for betraying the Sokovia Accords that installed the United Nations as superhero overseers. Fleeing to Budapest, she confronts her dark past as a Soviet

assassin when she is reunited with former Black Widow agents Yelena Belova (Florence Pugh) and Melina Vostokoff (Rachel Weisz), as well as Red Guardian (David Harbour), a would-be Russian “Captain America.” Natasha needs them to put aside their long-simmering grievances to help fend off the Taskmaster, who carries out missions for the Red Room (the Black Widow training program).

Australian filmmaker Cate Shortland directed *Black Widow*, and Gabriel Beristain, ASC, BSC, AMC served as cinematographer. Beristain was well acquainted with the MCU, having provided additional photography for

productions spanning *Iron Man* (AC May '08) to *Thor: Ragnarok* (AC Dec. '17), and serving as director of photography on the TV series *Agent Carter*. However, he didn't want Shortland to think of him simply as “a Marvel guy” who would impart a homogeneous MCU style on her film.

“I am loyal to directors, as I have been a director myself, and as a cinematographer, I was taught to work for the director's vision,” says Beristain, whose feature credits include Derek Jarman's *Caravaggio* and Taylor Hackford's *Dolores Claiborne*.

“I'm a ‘Marvel guy’ in that I see Marvel

Comics as an art form,” he adds. “The great masters of the comic-book tradition, like Jack Kirby and Stan Lee, have inspired filmmaking language. We are not photographing theater or a radio play; we have a language that combines composition, color, dialogue and script. That is the graphic-novel tradition I follow.”

Shortland, he says, wanted to make a grand spectacle that would also be intimate and character-driven. “Cate didn’t want the film to be overpowered by visual effects and have her decisions made by other departments. She said the lighting was as important for her as it was for me; she wanted it to be right, and she wanted to protect that. Scarlett was consistent with that concept — she told me not to worry about making her look pretty, but to make sure the light was coherent with the emotions of the story.”

The filmmakers sought a naturalistic look — befitting of Black Widow’s skills, which are not as fantastical as those of some of her fellow Avengers, like Thor. An apt example of this aesthetic is a scene in a Budapest apartment that involved “an explosion of smoke, laser beams and ominous silhouettes,” Beristain says. Lighting for the labyrinthine set was set up mostly outside the windows, some of which are partially covered by vertical blinds and drapes, creating pools of light inside. Bounced Arri Studio T12 Fresnels provided the main source.

Beristain notes that the production employed a technique often used by cinematographer and mentor David “Wendy” Watkin, BSC, who would bounce “big sources against simple white flats, angled to bounce into interior sets in a very naturalistic way. We basically used frames with Ultrabounce directed as needed, from vertical to 45 degrees, mounted on rails. The lights bouncing onto them were also mounted on a rig in order to keep the floor free to add additional lights if needed, or to have a clear view through the windows to the neutral backing.

“I try to light so as not to be intrusive,” he continues. “I try to keep the set as empty as possible of stands and flags so the actors can move with freedom and the camera can, too, whether it’s on Steadicam or the [Easyrig] Stabil arm. The most important thing about

our visual language was that fluidity.”

In one key exterior, the camera moves around Natasha at the site of a helicopter crash, and the filmmakers waited for magic hour in order to shoot in the light that would best capture the mood. “It was a complicated move on a crane, and we had time for only four takes because the sun was going down,” Beristain recalls. “We used the capabilities of the camera, with their tremendous dynamic range, and the natural bounce the terrain gave us. We shot [this scene] as naturally as possible, so the crane and the other two cameras had every bit of real estate to move freely. The light behind Scarlett was perfect, and it’s a beautiful shot.”

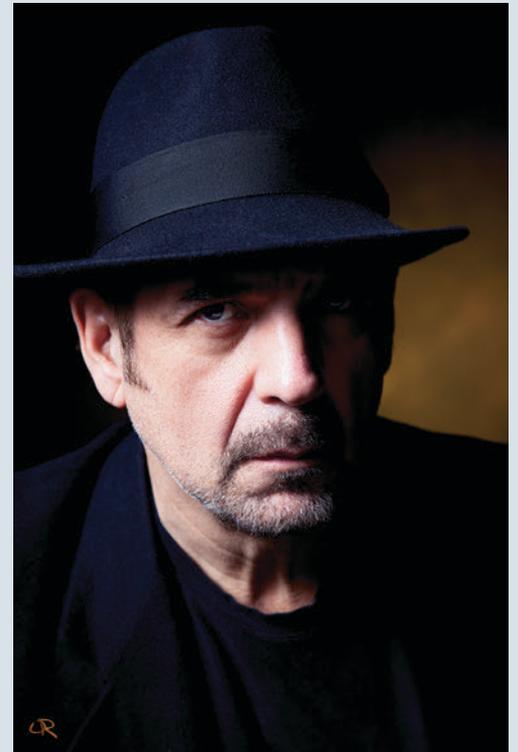
When additional photography for the sequence was shot at Disney’s Golden Oak Ranch, Beristain’s lighting study from the original shoot was carefully observed, “knowing clearly how the sun was moving throughout the day,” the cinematographer says. “But [ultimately] we did not go for a perfect matching — that would be too obsessive and unnecessary. The idea was that we would go for the most interesting modeling light, even if in the wide shot the lighting was 90 degrees from the characters and in the close-ups we opted for a more flattering and interesting 45 degrees. But we did supplement the set with a 100K and a 50K SoftSun if we went into shadows, or if we needed to add some modeling when the light was fading.”

The final grade was performed remotely, he says. “Our fantastic colorist was [ASC associate] Jill Bogdanowicz, whom I have had the pleasure to work with on many projects, and [we have] developed a very creative shorthand. She was at Company 3 in Hollywood and we were in one of the splendid animation projection rooms at Disney Studios — in full masks with social distancing and only a few of us in the room.

“We need to preserve the integrity of the images we create, and that is so difficult in the digital era,” Beristain adds. “More than any tool or technique, we need to emphasize the artistry of cinematography. We need to recoup the power of the light.”

— Mark Dillon

“The great masters of the comic-book tradition, like Jack Kirby and Stan Lee, have inspired filmmaking language.”



Gabriel Beristain, ASC, BSC, AMC.

This page: Aerial capture with Johansson's stunt double in mainland Norway. Opposite page, top: A Helicopter Film Services drone at Hankley Common nature reserve in Surrey, England. Bottom: *Black Widow* aerial director of photography Jeremy Braben with the Typhon Array.



North of the Arctic Circle, “even in summer, it’s still properly cold.”

and with the region isolated far beyond the capability of most helicopters to simply fly there, Braben and his crew used an Airbus H125 “AStar” that had been shipped in by sea. “That helicopter spends its time on Svalbard; it’s up there for the summer season, and it’s brought back to the mainland for maintenance during the winter.” The process of loading a helicopter onto a ship — in this case, the icebreaker *Polarsysse* — is relatively straightforward. “The blades come off and it’s strapped down onto the deck or [secured] in a container,” says Braben.

He adds that working with a new helicopter supplier always requires careful planning. “The Airfilm brackets use [attachment] points that are standard on the helicopter, but the access to those points requires holes in the belly panel,” he says. “Some helicopters have them because either we or other aerial colleagues have used them previously; otherwise, we have to use a modified belly panel with those holes cut in. In this case, the helicopter had been used [for filming] before.”

As is typical of highly anticipated projects such as *Black Widow*, the aerial crew was not privy to the complete storyline. “Unfortunately, many times we don’t get full scripts,” says Braben. “They give us bits and

Tech Specs:

2.39:1, 1.90:1 (selected scenes for Imax presentation)
 Cameras: Sony Venice, Vision Research Phantom Flex4K (slow-motion),
 Red Helium (aerial/plates)
 Lenses: Panavision C and E Series Anamorphic Prime, Primo 70
 (Imax scenes/aerial), AWZ2.3 (aerial); Zeiss CP.3 XD (aerial/plates)

pieces, and we work with the VFX team, the 2nd unit or the main unit on those specific requirements. I like to have a view of where our material is going to be in the whole film — whether it's an action sequence, a punctuation or a geographic locator. It's a personal thing."

The mainland Norwegian leg of *Black Widow* involved "running sequences, with the stunt actors running at some speed across the top of these peaks," he continues. "The main unit was shooting their sequences on the ground very nearby, and we were up on the mountain. On most of these sequences, apart from the array, we were sending a picture down to main unit using a Domo COFDM transmitter, so the director, Cate Shortland, could give us notes."

Braben's camera helicopter, piloted by Giles Dumper, also performed double duty by airlifting the stunt crew on and off the mountain peaks. "With our camera equipment onboard, weight considerations at that altitude meant we had to transport fewer people and less equipment," Braben says. "But the Airbus AStar is probably one of the most powerful helicopters of its kind — and in my opinion, it's certainly the best aerial platform."

Performance limitations are more commonly encountered when the helicopter must operate far above sea level *and* in warm, thin air. These conditions, Dumper says, "are known as 'hot and high' — which you'd encounter in, say, the mountains of Africa, the Alps or in Nepal. Sometimes we're not able to do what we'd like to do at sea level because the power just isn't available." Here, Dumper draws a distinction between two similar-looking helicopters: the single-engine Airbus H125 (until recently the Eurocopter AS350 *Écureuil*), aka "Squirrel," marketed in the United States as the "AStar," and the twin-engine AS355 *Écureuil 2*, often called the "Twin Squirrel" or "TwinStar." He explains, "The singles are more powerful and have a slightly better range. They have a single, powerful engine, whereas the twins, because of the space constraints, generally have two smaller engines."

Despite the omnipresent daylight during the *Black Widow* shoot in Norway, helicopter operations were dictated by crew limitations. "Pilots have a 'duty day' limited by the number of hours they can fly in a day," Braben explains. "There's some flexibility, but it impacts a production on the following day, so if you use a pilot flying duty extension one day, you have to start significantly later on the following day."

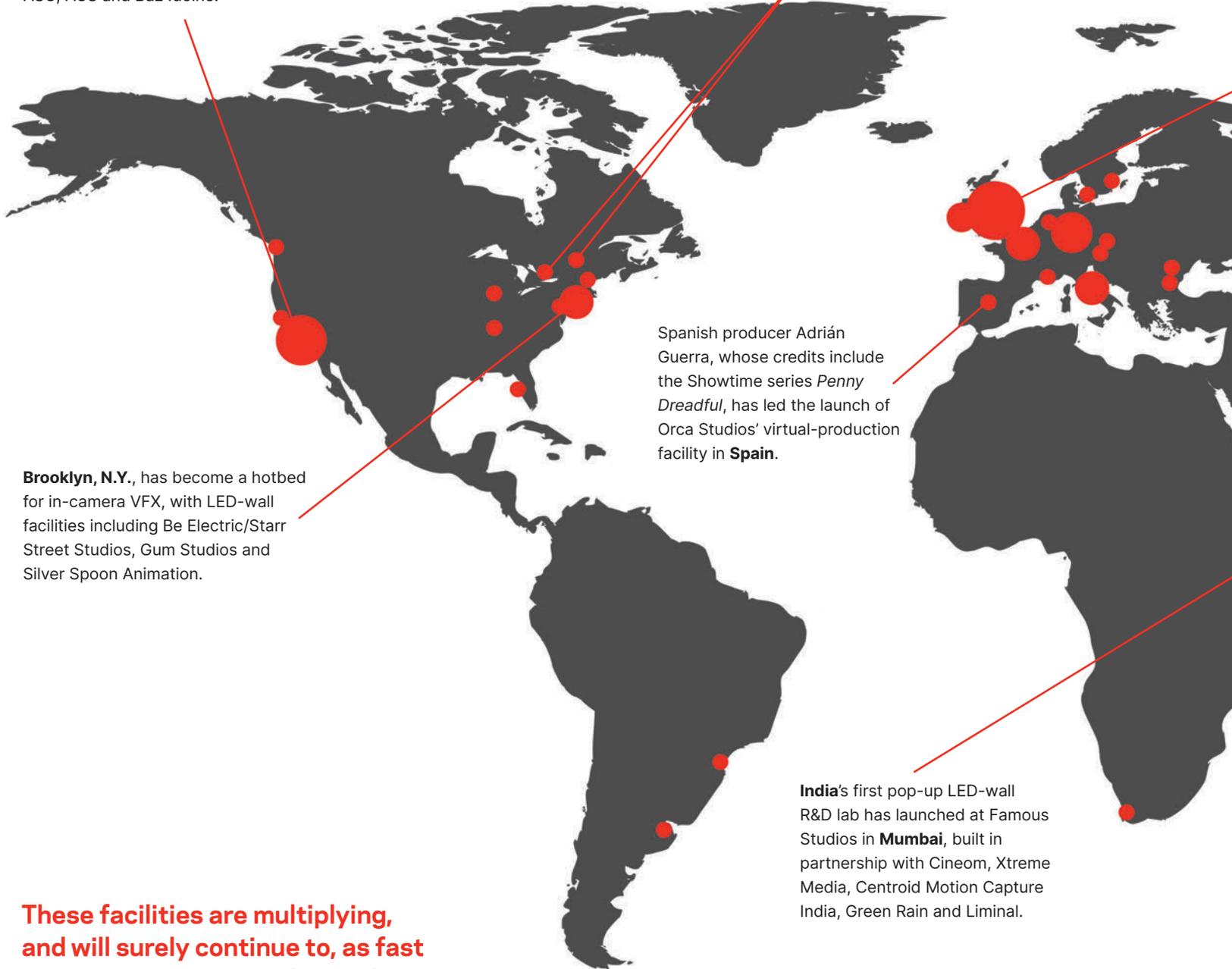
On *Black Widow*, though, the biggest variable in Norway was always the weather — which can be unpredictable that far north, even in summer. "There tended to be a hiatus in the middle of the day to get the right light, but we were weather-dependent — *very* weather-dependent," Braben says. "We had to go when we could fly, given the wind and cloud. On those fjords and mountains, the cloud was never very far from us. Sometimes we'd be up on the mountain for about an hour, and then the pilot would make the call that we had to get off for safety, and the cloud would come in very quickly. A couple of pictures I took mere seconds apart look very, very different." ◉



Virtual Expansion An overview of LED volumes across the globe

ILM's StageCraft facility in **Manhattan Beach, Calif.**, was the first major LED volume to shoot a complete project with in-camera VFX: the first season of *The Mandalorian*, shot by Greig Fraser, ASC, ACS and Baz Idoine.

Pixomondo in **Toronto** and Mels Studio in **Montreal** are among **Canada's** leading resources for LED-wall productions.



These facilities are multiplying, and will surely continue to, as fast as necessary to meet demand.

• The size of each dot represents the relative concentration of LED-wall facilities in each region.



By Noah Kadner

Ant-Man and the Wasp: Quantumania is shooting with the aid of in-camera VFX on an LED stage at Pinewood Studios in **England**.

"LED-based virtual production is definitely the future [of filmmaking]," said Guo Fu, co-founder of **Beijing, China**-based VFX company Revo Times, as reported by the *South China Morning Post*.

Production-capable LED volumes were few and far between just a few years ago, but now, with creatives on nearly every continent embracing virtual production, there are a hundred or so around the world — and the number is growing.

The map presented here features a global view of mixed-reality "XR" stages with LED volumes for in-camera visual effects. These facilities are being adopted by productions of all scales and types, including features, TV series, music videos, commercials and live-broadcast events.

The configuration of each XR stage is bespoke, tailored to the production at hand. Large, all-encompassing volumes resembling a dome and including curved surround walls and overhead ceilings are used on shows such as the upcoming lineup of Disney Plus *Star Wars* series, Season 4 of Paramount Plus' *Star Trek: Discovery* (AC July '21), and Netflix's *1899*. These volumes can be up to 75' across and more than 20' tall.

Another popular XR-stage configuration features three LED surfaces: a floor and two side walls, around 15'-20' tall, connected at 90-degree angles to form a half cube. These are best for projects that call for entirely virtual environments wherein the actors stand on and interact with virtual elements.

A more modest stage configuration, an example of which can be seen on the ABC series *Station 19*, features smaller rectangular rear walls around 15'-25' wide by 12' tall, with corner wings approximately 10'x12' wide — connected at 90-degree angles and all generally on wheels and fully movable.

Continued on next page



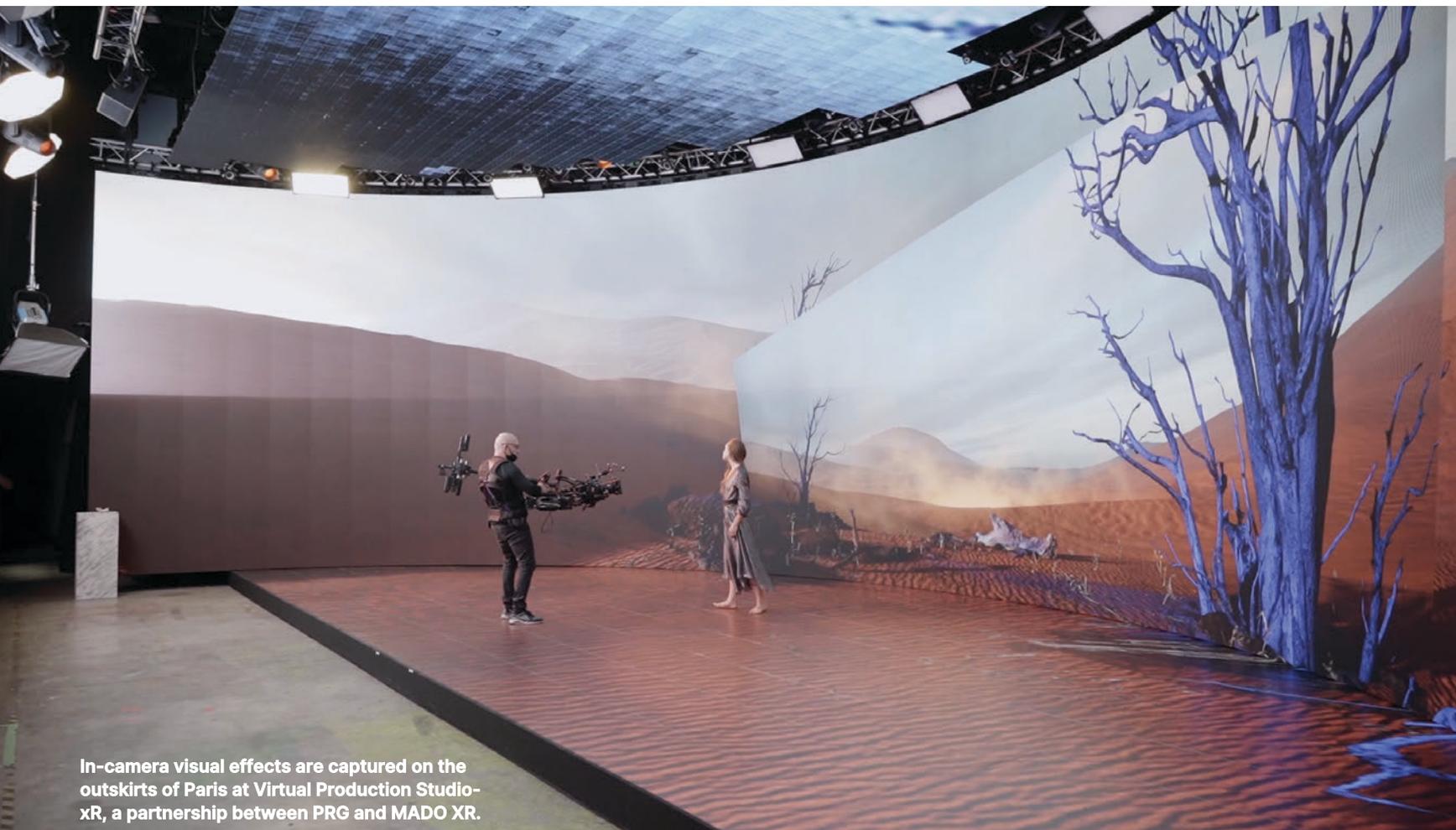
The Sony PCL Innovation Lab in **Tokyo, Japan** — Sony's in-house virtual-production lab — uses the company's own high-resolution Crystal LED panels, which feature pixel pitch as low as 1.26mm.

CJ ENM, the **South Korean** entertainment group behind the Academy Award-winning feature *Parasite*, has spearheaded the launch of an LED stage in **Paju, Gyeonggi Province**.

Aux Immersive Studio is **Singapore's** first extended-reality facility.

An LED volume was built at Fox Studios in **Sydney, Australia**, for Marvel's *Thor: Love and Thunder*, photographed by Baz Idoine.

Weta Digital, co-founded by director Peter Jackson, has partnered with Avalon and Streamliner to build an LED volume in **Wellington, New Zealand**.



In-camera visual effects are captured on the outskirts of Paris at Virtual Production Studio-xR, a partnership between PRG and MAD0 XR.

This scale is well suited to the projection of 2D plates for driving and flying POV shots — with possible options for virtual-production work with real-time camera tracking and interactive imagery, as was the case on *Station 19*, whose LED-wall scenes were shot on a stage in downtown Los Angeles with a custom LED setup provided by Sam Nicholson, ASC's Stargate Studios (AC July '21).

Some smaller stages have been constructed for proofs of concept and experimentation, and then have evolved into larger installations as creatives have mastered the workflow — an example being XR Stage's LED-wall installation at Line 204 in Los Angeles. As a result, the technology can be scaled down to support lower-budget productions when necessary.

Many XR stages shown on our map were constructed for a specific production, and were then left standing for further use pending demand. One is Studio Babelsberg's 75'x23' Dark Studios volume, which was built for the first season of *1899*. Another is Pixomondo's XR stage

in Toronto, built to support *Star Trek*.

Careful consideration is given to determining which screens in the volume will be used on-camera. The pixel pitch, or the amount of space between individual pixels on the screens, is typically the determining factor. Most XR stages will integrate panels of at least 2.8mm pixel pitch to read correctly on-camera. Lower-density and repurposed event-venue screens can be used off-camera for ceilings and reflected light. As the quality of the LED screen's appearance on-camera is the key determining factor of a stage's efficacy for a given production, it's important to research and make inquiries about LED-wall specs when first exploring XR stages for potential projects — as each stage is unique.

Given that LED panels are modular and designed for swift installation and reconfiguration, these facilities are quickly multiplying, and will surely continue to, as fast as necessary to meet demand — as evidenced by our well-populated map and our substantial facility-listing on the facing page. ☐

Immersive Environment

LED volumes for virtual production — or “XR stages” as they're now often called — combine 3D real-time virtual assets with live actors and practical set pieces to create an immersive environment with extensive emitted light. “When

you're in an open daylight situation within a virtual volume, everything works to your advantage to create believable atmospheric lighting,” says Daryn Okada, ASC, who has served as producer, director and cinematographer on *Station 19*.

“You can use photographic lighting principles to create an authentic ambience, or you can manipulate those elements to reflect what a scene is really about — make them cooler, warmer, darker, brighter, etc.”

LED Walls Worldwide

North America

Canada, Montreal | Mels Studios | CVSP
 Canada, Montreal | Neweb Labs / Grande Studios | DT
 Canada, Toronto | Pixomondo | SFT
 Canada, Toronto | Sheridan College SIRT | DT
 Canada, Vancouver | Animism Studios | DT
 Canada, Vancouver | Vancouver Film School | DT
 U.S. – California, Los Angeles | Arri Solutions Group | DT
 U.S. – California, Los Angeles | CenterStaging / NEP Sweetwater | DT
 U.S. – California, Los Angeles | Creative Technologies | CVSP
 U.S. – California, Los Angeles | Digital Planet Studio / Mobile Motion Mocap | CVSP
 U.S. – California, Los Angeles | Global Trend Productions | CVSP
 U.S. – California, Los Angeles | ILM StageCraft | SFT
 U.S. – California, Los Angeles | Line 204 / XR Stages | SFT
 U.S. – California, Los Angeles | LMG | DT
 U.S. – California, Los Angeles | NantStudios | SFT
 U.S. – California, Los Angeles | S4 Studios / Background Images | CVSP
 U.S. – California, Los Angeles | Scanline VFX | SFT
 U.S. – California, Los Angeles | Stargate Studios | CVSP
 U.S. – California, San Rafael | Intrepid Studios / World Stage | CVSP
 U.S. – Florida, Tampa | Diamond View Studios | DT
 U.S. – Illinois, Chicago | MadlyFX / Cinespace | CVSP
 U.S. – New Hampshire, Derry | Events United / Studio Lab | DT
 U.S. – New York, Brooklyn | Be Electric/Starr Street Studios | SFT
 U.S. – New York, Brooklyn | Gum Studios | SFT
 U.S. – New York, Brooklyn | Silver Spoon Animation | CVSP
 U.S. – Pennsylvania, Lititz | Suite 47 | CVSP
 U.S. – Tennessee, Nashville | NEP and Skyway Studios | CVSP

South America

Argentina, Buenos Aires | La Sociedad Post | DT
 Brazil, Curitiba | Oger Sepol Produções | DT

Europe

Austria, Vienna | Media Apparat | SFT
 Bulgaria, Sofia | Nu Boyana | DT
 Czech Republic, Prague | Prague Studios | CVSP
 Denmark, Copenhagen | Amunet Studio | DT
 France, Marseille | La Planète Rouge | CVSP
 France, Paris | Parallell Cinema / Neoset SAS | DT
 France, Paris | Plateau Virtuel | CVSP
 France, Paris | PRG & Mado XR / Virtual Production Studio-xR | CVSP
 Germany, Berlin | PRG / LavaLabs | CVSP
 Germany, Erding | Young Rooster | CVSP
 Germany, Munich | Hyperbowl - ACHT / NSynk / TFN / Fournell | DT
 Germany, Nuremberg | Father & Sun Productions | CVSP
 Germany, Potsdam | Dark Bay / Studio Babelsberg | SFT
 Germany, Stuttgart | Mackevision | DT
 Ireland, Dublin | HighRes | SFT
 Ireland, Dublin | Screen Skills Ireland | DT
 Ireland, Galway | Galway Film Centre | DT
 Italy, Asolo | Hive Division | CVSP
 Italy, Milan | Full/Frame/Figure | CVSP
 Italy, Milan | Luno Studios | SFT

SFT = Studio Features and Television

CVSP = Commercials, Music Videos, Specialized Shots, Pickups

DT = Demos and Training

Due to the global nature of this field and its speed of advancement, some information in this listing may have changed since the data was collected, and there may be additional facilities beyond those presented here.

Italy, Rome | ForwardGames | DT
 Netherlands, Amsterdam | Faber Audiovisuals / NEP Hilversum | DT
 Netherlands, Amstelveen | HeadQ Virtual & Post Production | DT
 Romania, Bucharest | Static VFX | CVSP
 Spain, Las Palmas | Orca Studios | CVSP
 Sweden, Lidingö | Stiller Studios | SFT
 Sweden, Stockholm | Important Looking Pirates | DT
 U.K., Ashford | Ashford International Film Studios | DT
 U.K., Belfast | Ulster University Screen Academy | SFT
 U.K., Berkshire | 80six / Virtual Production Studios | CVSP
 U.K., Bournemouth | Treehouse Digital | CVSP
 U.K., Bristol | The Virtual Venue | CVSP
 U.K., Cardiff | Cardiff University Clwstwr | DT
 U.K., London | Dimension Studio | CVSP
 U.K., London | Garden Studios | DT
 U.K., London | LightField London | CVSP
 U.K., London | Mars Volume | CVSP
 U.K., London | Milk VFX | CVSP
 U.K., London | Pinewood Studios | SFT
 U.K., London | Pulse Films | DT
 U.K., London | Rose Bruford College | DT
 U.K., London | RSA Films | CVSP
 U.K., London | Satore Studios | CVSP
 U.K., Portsmouth | University of Portsmouth Centre for Creative and Immersive Extended Reality | DT
 U.K., Oxfordshire | Rebellion Film Studios | CVSP

Asia

China, Beijing | Nova Film | CVSP
 China, Beijing | Virtual Point | CVSP
 China, Hangzhou | TimeAxis | CVSP
 China, Hangzhou | Versatile Media | CVSP
 China, Shanghai | Sura Studio | CVSP
 India, Mumbai | Centroid Motion Capture India / Cineom / Green Rain / Liminal / Famous Studios | DT
 Japan, Tokyo | CyberHuman Productions | DT
 Japan, Tokyo | Sony PCL | DT
 Singapore | Aux Immersive Studio | CVSP
 South Korea, Paju | CJ ENM | SFT
 South Korea, Seoul | Dexter Studios | SFT
 South Korea, Seoul | Giantstep Studios | CVSP
 South Korea, Seoul | Studio XXX | SFT

Middle East and Africa

Saudi Arabia, Riyadh | Qiddiya | DT
 South Africa, Cape Town | AMG Synergistics / Virtuality Live | DT

Australia and New Zealand

Australia, Burwood | Fika Entertainment | CVSP
 Australia, Moore Park | Spectre Studios | DT
 Australia, Perth | Last Pixel | CVSP
 Australia, Sydney | Fox Studios Australia | SFT
 New Zealand, Upper Hutt | Lane Street Studios | CVSP
 New Zealand, Wellington | Undercover Media | CVSP
 New Zealand, Wellington | Weta Digital | SFT

Bold Visions

AC delves into *Passing*, *Two of Us* and *CODA* in this special focus on independent productions.

Cinematographer Edu Grau, ASC, AEC was immediately impressed with director Rebecca Hall's strong vision for *Passing*. When the two first met to discuss working together on the feature, Hall had already made two unconventional decisions for the adaptation of Nella Larsen's 1929 novel — the filmmakers would shoot in black-and-white and frame for the 1.33:1 aspect ratio.

"I was like, 'Wow, that's a great start,'" Grau says. And equally impressive, "She'd already done the hard work of getting it greenlit" — having persuaded the project's producers to support her stylistic choices. The cinematographer notes that such out-of-the-box thinking is what often draws him to first-time directors. "They have so much to prove that they put all the meat on the barbecue. They just go for it."

Bold visions and unique perspectives — the mainstays of independent productions — are at the core of this special coverage of three modestly budgeted, adeptly shot features. Later in this report, AC explores cinematographer Aurélien Marra's creative framing that yielded a visual dramatic irony in the black-and-white feature *Two of Us* (see page 56); and Paula Huidobro, AMC's naturalistic landscapes and portraiture, and her techniques for shooting at sea, in *CODA* (page 59).

Set in Harlem in the 1920s, *Passing* — which premiered to critical acclaim at the 2021 Sundance Film Festival and was purchased by Netflix for a release later this year — recounts the thorny yet tender renewal of friendship between two light-skinned Black women who were high-school classmates: Clare (Ruth Negga), who "passes" as white, even to her racist husband, John (Alexander Skarsgard); and Irene (Tessa Thompson), who does not try to "pass" and whose husband, Brian (Andre Holland) is Black.

"It just struck me that the best way to make a movie about colorism was to take all of the color out of it," says Hall. Grau adds that the monochromatic palette also underscores the complexity of the story. "In black-and-white, there is also gray, and that's kind of the motor powering the film as well," he says. "What does it mean to be Black? What does it mean to be white?"

Adds Hall, "Nella Larsen presents a very binary world — she's constantly talking in terms of Black, white, male, female, gay, straight — and



PASSING PHOTOS COURTESY OF NETFLIX.



Previous page: Clare (Ruth Negga, left) and Irene (Tessa Thompson) in *Passing*. This page: Thompson and Negga.



“This is a movie about faces — how we see them and how we watch them being seen.”

yet the book is hopelessly complex. There is nothing ‘one or the other’ about it.”

“We shot with the Arri Alexa Mini, but we never saw the images in color, as we were very adamant about only seeing the movie in black-and-white,” Grau says. “Color was totally unnecessary for us in this story!”

Hall had worked with Grau previously, albeit on the other side of the camera; she had performed in two films Grau photographed — *The Awakening*, directed by Nick Murphy, and *The Gift*, directed by Joel Edgerton.

“Rebecca and I are actually very close in age and similar in our taste in movies, demeanor and humor,” says Grau.

“We had a shorthand very, very quickly,” Hall notes.

Even more unorthodox than the movie’s monochromatic presentation was the fact that the 1.33:1 aspect ratio was produced with the Arri Alexa Mini paired with *anamorphic* Lomo lenses.

Says Grau, “We shot with anamorphic Lomos to only use the 4:3 center of the image — losing more than 30 percent of the sensor — because we were looking for an unconventional approach and very unique lenses, and that combination gave us a painterly quality and a beautiful bokeh with dreamy highlights and very soft edges. No other lenses are close to the Round Front Lomos, and we felt that the overall approach was fitting for our movie, and also totally different from the black-and-white movies that have been produced recently.”

This traditional square-ish frame gives the images a hemmed-in quality meant to suggest the boxes into which the characters have been placed. “That was one of the concepts: the beehive the characters live in,” says Grau. “Clare is exploring the limits of this beehive. She’s wondering if this is what the world is, or if we should think outside the box.”

Tech Specs: *Passing*

1.33:1

Camera: Arri Alexa Mini

Lenses: Lomo Round Front Anamorphic



**Cinematographer Edu Grau, ASC, AEC
with director Rebecca Hall (both kneeling)
and crew.**

Hall notes that the square-style frame is also well suited to close-ups, which are integral to the storytelling. “This is a movie about faces — how we see them and how we watch them being seen,” the director says.

Playing into the shape of the frame, Hall and Grau opted to create symmetrical compositions for Irene and looser angles for Clare. “Clare is freer, more poetic,” says the cinematographer, “and our framing of her is sometimes a bit unpredictable.”

Working with stops that were close to wide-open on the vintage Russian anamorphic lenses created striking shots with shallow depth of field that often border on blurriness. “We were at the edge of resolution, at the edge of definition, but that’s also kind of exciting, beautiful, edgy and strange,” the cinematographer says. “Those are all qualities that the film needed and the lenses helped to convey.”

Grau’s stylistic boldness is likely one of the qualities that caught ASC members’ attention — as Grau was invited into Society membership earlier this year, which was a dream fulfilled for the Barcelona native. “I used to read *American Cinematographer* with my film-school pals. We learned so much reading this magazine!”

Grau adds that there was yet one more move the production put into play, which helped ensure the filmmakers’ unique vision would be presented as intended. “We painted walls in awful shades of red or green,” he says with a laugh. “This had two purposes. Mainly we needed to paint the walls, and we decided to choose a strong shiny color that could be easily selected in post if we needed to change the density of the wall on a particular shot or scene — but doing that also made sure the movie would never be seen in color!”

— Peter Tonguette

“We were at the edge of resolution and definition, but that’s also kind of exciting, beautiful, edgy and strange.”



Madeleine (Martine Chevallier, left) and Nina (Barbara Sukowa) in *Two of Us*.

For Love

French cinematographer Aurélien Marra is drawn to projects that tackle issues from a unique, surprising point of view. From the first time he met director Filippo Meneghetti, Marra recalls recognizing his “very specific vision” for the French-language feature *Two of Us*, “and when I read the script, I knew he was going to tell the story in an original way.” With the duo’s sensibilities in sync, *Two of Us* (aka *Deux*) went on to be chosen as France’s submission for the 2020 Academy Award for Best International Feature — and Marra’s work on the production earned him this year’s ASC Spotlight Award.

The movie follows two lesbian senior citizens, Nina (Barbara Sukowa) and Madeleine (Martine Chevallier), who have secretly been together for decades. Madeleine’s adult children aren’t aware of this relationship, so when Madeleine falls ill and can no longer communicate, Nina is left unable, yet desperate, to offer love and care to her partner.

Though Marra initially interpreted the narrative as a love story, “very quickly, Filippo noted that love wasn’t the main topic,” the

TWO OF US PHOTOS COURTESY OF MAGNOLIA PICTURES.

“The main advantage of a smaller project is the freedom.”



cinematographer recalls. “It’s a movie about obsession, which is a darker way to perceive love. It’s more about what love can make you do. So, I understood I would be going in a darker visual direction. That was very exciting — to use the script as a basis and apply to it a very strong vision that wasn’t the obvious way to tackle the story. When you are shooting a classic tragedy or drama, your goal is to put the viewer in a position where they fully empathize with the characters and are touched by their journey. When you want to convey obsessional patterns, or any

psychological excess, at some point you have to create distance between the viewer and the characters. The camera’s point of view is more independent, often a bit wider and farther from the actors, or it moves in a way that is out of sync from the characters’ moves. We aren’t just in the situation — we see it with some distance, perspective and clarity. In order to achieve that goal, the 25mm lens was one of our main tools. We often used it through doorframes, creating a shady foreground that adds density and tension to the shot.”



Cinematographer Aurélien Marra used wider lenses to create a sense of distance between the audience and the characters.

Tech Specs: *Two of Us*

2.39:1

Camera: Sony Venice

Lenses: Bausch & Lomb Super Baltar

“Someone might not be able to tell whether this movie was shot last year or 10 years ago, or 20.”



Cinematographer Aurélien Marra at camera.

Marra adds that the filmmakers were “very interested in using dramatic irony” to help achieve this broader view of the story. To that end, with a combination of lens choice and frame composition, the filmmakers designed selected scenes to depict a visual dramatic irony, where the audience would have a more complete perspective of the action than individual characters. Marra cites an example: “In the scene where Nina is going into Madeleine’s flat at night, trying to not be seen by the nurse, the nurse wakes up, oblivious, and drinks her water in the middle of the frame, between the two main characters hiding in Madeleine’s room. If we had to be a bit more dramatic, we probably wouldn’t have framed her in the middle; it’s very obvious, almost comedic, and it helped to add that feeling of irony and distance. Of course, you have to balance it very carefully to avoid the comedic aspect becoming too dominant. That’s why we chose to keep the main characters in a very dark [environment]. It’s very much about combining paradoxical patterns in the same frame. Like in everyday life, there is always some absurdity in a dramatic situation.”

Marra shot *Two of Us* on the Sony Venice paired with Bausch & Lomb Super Baltar lenses. He chose the camera because of its low-light capabilities — a necessity on the low-budget independent project — and the vintage optics because he wanted to give the movie an “ageless” quality. “I was happy with the idea that someone might not be able to tell whether this movie was shot last year or 10 years ago, or 20.”

Marra notes that telling the story on a modest budget was occasionally stressful, but also freeing. “On a small movie like this, with an independent-production budget, you can’t make any mistakes. You know that if a shot isn’t good, you won’t have a chance to reshoot it. It’s a lot of pressure when you have a big shoot in one day with a lot of shots and characters. But the main advantage of a smaller project is the freedom. We were very free. The producers were very interested in supporting the creative process, and they were confident in us.”

— Tara Jenkins

Ruby (Emilia Jones) onboard a fishing boat in *CODA*.



Dreams and Loyalty

The central motifs in *CODA* — the ocean, song and silence — are introduced in the feature’s opening shots. Ruby Rossi (Emilia Jones), a child of deaf adults (aka “CODA”), works as a deckhand on her family’s commercial-fishing boat. As she sorts fish, she belts out a song, unheard by her deaf brother (Daniel Durant) and father (Troy Kotsur). The story that follows depicts Ruby’s struggle between loyalty to her family, who rely on her as their conduit to the hearing world, and her passion for singing, which threatens the family’s livelihood if she goes away to music school.

CODA — which won the Grand Jury Prize among other honors at the 2021 Sundance Film Festival, and premieres in theaters and on Apple TV Plus this month — is a remake of the French hit *La Famille Bélier*. In transposing the story, writer-director Siân Heder changed the family’s occupation from dairy farmers to fishers and set the story in Gloucester, Mass., where the Boston-born director spent her childhood summers.

“It was important to do justice to the landscape because it’s quite gorgeous — the ocean and all those quarries.”



“We wanted the look to be natural and organic, not imposed.”

Gloucester set the look: gray seascapes and quarry swimming holes — and practical locations for the ramshackle Rossi home; the posh, ocean-view house owned by Ruby’s music teacher; and even the weathered faces of the Gloucester fishing community, who participated as extras.

“We wanted the look to be natural and organic, not imposed,” says Mexican cinematographer Paula Huidobro, AMC. “For me, it was important to do justice to the landscape because it’s quite gorgeous — the ocean and all those quarries. We wanted to show what it feels like when you’re actually there.”

That goal motivated the filmmakers’ decision to shoot 6K on a Sony Venice with Arri Signature Primes. “We were attracted to the resolution of the large format and the sharpness of the image without it appearing harsh,” Huidobro says. Plus, they wanted to get inside Ruby’s head as she discovers first love and her passion for music. “The Signature lenses are quite beautiful for portraits, with their depth of field and creamy look,” says the cinematographer, who would set the aperture to T2 or T2.8 to achieve a shallow depth of field for these shots.

CODA is Huidobro’s fourth project with Heder, and it brought new challenges to the longtime friends, who met as students at the American Film Institute. One of these challenges was shooting three miles at sea, as fishing regulations required. The production’s boat was an actual “dragger” with winch and net, and Heder wanted the visual impact of fish being dumped on deck from a huge net. “We didn’t have fake fish,”



Tech Specs: *CODA*

2:1
 Camera: Sony Venice
 Lenses: Arri Signature Prime



Huidobro says, “so we only had one chance to bring the net up and film it. Once the fish are dead, it doesn’t look real anymore.” Regarding the production’s shooting techniques at sea, she adds, “The space in the boat was very limited, so we decided to go handheld, which also helped with the immediacy and realism of the story. We had a crane on a speedboat to get the wider shots.”

Another unusual undertaking was designing shots for three deaf actors: Kotsur, Durant and Marlee Matlin, who portrays Ruby’s mother. “They have to see each other to communicate,” says Huidobro. “We had to frame them in a way that you can see their hands [as they sign].”

CODA also conveys the experience of being deaf. When Ruby and her crush, Miles, sing their duet at the school concert, the sound fades to silence, and the camera, fitted with longer lenses, adopts the deaf family’s point of view as they study the surrounding audience for clues: some nod along, some brush away tears and all enthusiastically applaud. “Something magical happens when Ruby’s family sees that — they’re able to relate to what the beauty of the music *feels* like,” Huidobro says. “Though they can’t hear it, they see their daughter flourishing.”

The cinematographer has ample experience with independent production, with credits including *Oh Lucy!*, *Shelter* and *The Wilde Wedding*. The downside, she says, can be “lack of resources, maybe a less-experienced crew and fewer lights than you wish you had.” On the plus side — much like *Two of Us* cinematographer Aurélien Marra (see page 56) — Huidobro points to creative freedom as a major benefit. “On this film, Siân and I had the freedom to do whatever we wanted, and she had a very clear vision of what that was.”

— Patricia Thomson

Previous page: Ruby’s true passion is singing. This page, left: Ruby with her mother. This page, right: *CODA* cinematographer Paula Huidobro, AMC, pictured here on the set of the HBO series *Insecure* (AC Nov. ’18).



In Memoriam

Willy Kurant, ASC, AFC (1934-2021)

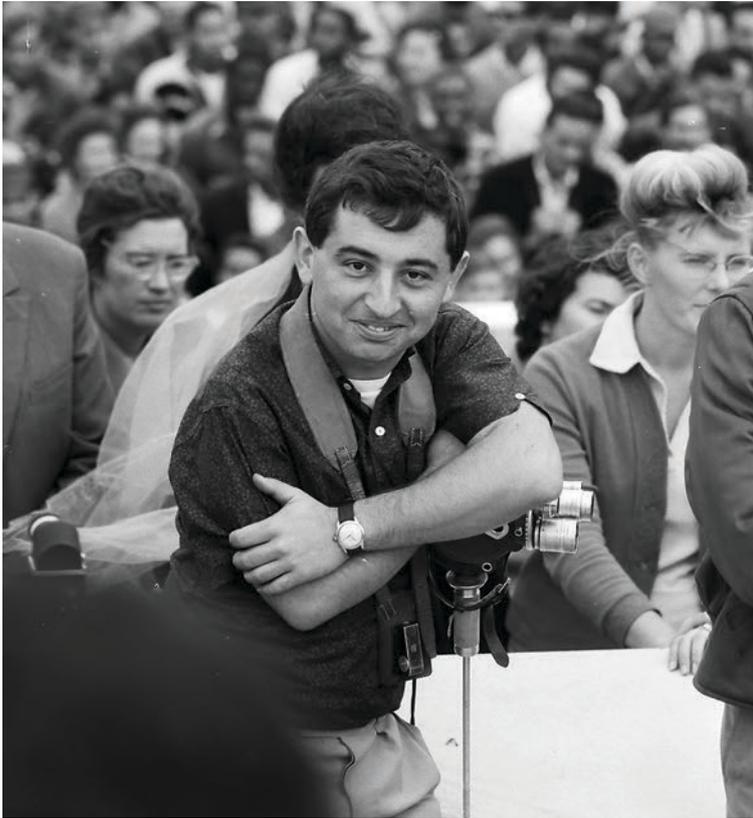


PHOTO COURTESY OF ALAMY.

Willy Kurant, ASC, AFC visits Cuba in 1963.

Camera Poet of the French New Wave

By John Bailey, ASC

**Willy was one
of the go-to
cinematographers
for French New Wave
filmmakers.**

In the autumn of 1968, when I first met Belgian cinematographer Willy Kurant, he was 34 years old, living in Paris and approaching the apex of his French career. Along with Indochina War veteran Raoul Coutard, chain-smoking iconoclast Jean Boffety and genteel Catalan Néstor Almendros, Willy was one of the go-to cinematographers for French New Wave filmmakers; he had photographed several dozen documentary short films in the Congo, Turkey and India for directors such as Maurice Pialat, and feature-length films for Jean-Luc Godard, Agnès Varda, Chris Marker, Jerzy Skolimowski and Alain Robbe-Grillet.

When I met Willy that September at the Café de Flore in Saint Germain des Prés, he was still emotionally decompressing from shooting Hubert Cornfield's neo-noir *The Night of the Following Day*, an American film set in France whose stars, bad-boy actors Marlon Brando and Richard Boone, were both wannabe directors of the project. As if that weren't enough outside personas to contend with, Willy had also recently wrapped the Orson Welles film *The Immortal Story*, starring the queen of the New Wave, Jeanne Moreau.

A dropout of the USC Cinema graduate program and a Peace Corps trainee recently "deselected" for my political views, I had come to Paris to visit my girlfriend and future wife, Carol Littleton, who was studying at the Sorbonne on a Fulbright grant. Already an acolyte of cutting-edge French movies (courtesy of Max Laemmle's cinematic temple in Los Feliz), I was eager to breathe the intoxicating air of French cinema *in situ*. Willy asked me to meet him at the Café de Flore, a place that I soon discovered was sacrosanct to him.

An iconic venue that hosted the literary and cultural elite of 20th-century French arts, the Café de Flore is still a must-see for cultural pilgrims. Thanks to the famous montage of sidewalk passersby in Louis Malle's *The Fire Within* (1963), starring Maurice Ronet, I could recall every exterior table at the café, and, after arriving early for my meeting with Willy, I sat at the same table Ronet had occupied. Like his character, Alain Leroy, I, too, was fully engaged in introspection when a delicate-featured man walked up and introduced

himself as "Willy." He immediately rescued both of us from my barely passable Peace Corps French with his perfect English, and he exhibited no trace of Gallic reserve or disdain. Initially, I attributed his openness to his recent experiences with unbridled American moviemakers, but as he spoke of his life and work, I realized his sensitivity was bred in the bone — the DNA of a life full of challenges.

Willy's father, a Polish Jew named Jankiel Icek Kurant, took refuge in Belgium in the early 1930s as anti-Semitism raged through central Europe. He brought a daughter, Felicia, with him and settled in Liège. He remarried, to Tema Feuer, and on Feb. 15, 1934, Willy was born.

On May 10, 1940, Germany invaded Belgium, and 18 days later, Belgium surrendered. Jankiel put his family on notice that, as Jews, they might be taken away; inevitably, a neighbor denounced them. It could have been a scene from a movie: One day, as Felicia bicycled home from school with Willy in tow, she saw Gestapo in front of their home. Following the instructions her father had given her, she kept pedaling. She and Willy never saw their parents again. Around that time, Willy contracted polio, which left him with a compromised right arm. (Nevertheless, he became one of the best handheld cameramen of his time, making many documentaries before his first two features, Varda's *Les Créatures* and Godard's *Masculin Féminin*.)

Avoiding German patrols, Felicia and Willy were able to find shelter with a Catholic communist family in the Ardennes. Felicia, much older than Willy, left to join the Resistance. In 1942, Willy

PHOTO COURTESY OF GETTY IMAGES.



continued his schooling under a false name in the village of Bison near Verviers, not far from Liège. Willy became a newspaper boy, distributing copies of the *Red Flag*. (The communist elements of his background haunted him for years as he struggled to maintain a career in America, even after Carol and I sponsored him for U.S. citizenship. Every time he passed through U.S. Customs, he was unjustly flagged as a “subversive.”)

When the war ended in 1945, Willy, not yet a teenager, continued his education in an orphanage in Boitsfort. There, a

photography teacher (and Auschwitz survivor) found an internship for him in a motion-picture laboratory. This sparked Willy's life-long study of the creative possibilities of photochemical alchemy. Many years later, I saw his expertise in controlled on-set exposure, laboratory development and printing firsthand when he photographed a film I directed, *China Moon*.

Willy was eventually professionally reunited with Pialat, the idiosyncratic director with whom he collaborated early in his career, and in 1987, Willy was



Kurant and actor Chantal Goya on the set of *Masculin Féminin*, directed by Jean-Luc Godard.



Kurant and director
Philippe Garrel on the set of
Jealousy.

Invitation to Excellence

Willy Kurant was recommended for ASC membership by John Bailey, Allen Daviau and Steven Poster.

"Mr. Kurant has been a vociferous spokesman for the causes of cinematographers from all countries," Poster wrote in his letter of Dec. 25, 1995, to the ASC Membership Committee. "I believe he will be an important and welcome addition to the ASC."

Bailey noted in his letter of Dec. 27, 1995: "Of the several people whom I have had the honor to sponsor [for ASC membership], Willy is the person I most know and admire. He has been a longtime friend and mentor to me. I'm convinced that he will be an asset to us as an active member both in terms of his professional acumen and his expansive personality."

"It has been 20 years since I first met Willy Kurant," Daviau wrote in a handwritten letter dated Feb. 13, 1996. "For an aspiring cinematographer to receive inspiration from one of the founding members of the French 'New Wave' was an event I will always remember ... I am certain he remains an inspiration to many."

Kurant's ASC membership was approved and made official on May 14, 1996.

His sensitivity was bred in the bone — the DNA of a life full of challenges.

honored with a César nomination for Pialat's *Sous le soleil de Satan*, which also won the Palme d'Or at Cannes.

On June 2, 2009, Willy's beloved Cinémathèque Française honored him with a tribute — truly a dream realized.

Willy died in Paris on International Workers Day, May 1, at the age of 87. Happily, his own account of his remarkable life survives him; while he was still in good health, he sat with my AC colleague Benjamin Bergery for an interview for the Academy Oral History Project. (The interview can be found at the Academy's Margaret Herrick Library.)

Willy is survived by his wife, Héléne Robin, a gifted costumer who worked with New Wave icons as well as Serge Gainsbourg, another frequent collaborator of Willy's. He was predeceased by his sister, Felicia, two years ago.

When I first sat with Willy at the Café de Flore in September 1968, not yet focused on how I could begin a career in the movies, I sensed I was speaking with a man whose singular devotion to his art would be a beacon for me. Neither of us could know then the paths our lives would take, or that we would collaborate more than 20 years later on a noir feature in central Florida. He may be gone, but the lambent light radiated by his work remains bright. We, film students all, have been enriched by this gentle man's poetic vision.

American Cinematographer Opens Online Archive to the World

More than 100 years of filmmaking knowledge is now available via our website, allowing AC subscribers to dive deep into every issue since 1920.

Trace the evolution of motion-picture artistry and technology — from the silent era to sound and color, from CG visual effects to digital capture and virtual production — while following the careers of the greats as they make cinema history.

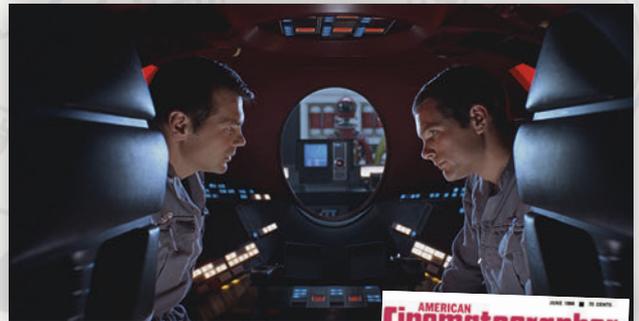
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In an exclusive AC interview, Alfred Hitchcock explains his methods of working with cinematographers, production designers and editors. (AC May 1967)



Len Powers, ASC details his collaboration with iconic comedians Stan Laurel and Oliver Hardy. (AC Oct. 1929)



Read our exclusive interview with Stanley Kubrick as he details his meticulous approach to the sci-fi classic 2001: A Space Odyssey. (AC June 1968)



Read about the production of *Citizen Kane* as described by Gregg Toland, ASC himself — revealing his visual approach to one of the great examples of expressive cinematography. (AC Feb. 1941)



Douglas Slocombe, BSC and Steven Spielberg discuss their close collaboration on *Raiders of the Lost Ark*. (AC Nov. 1981)

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Companies Partner on LED Volumes Across Canada

Visual-effects company Pixomondo and equipment-rental house William F. White International, Inc., are joining forces to build LED volumes across Canada. The companies have designed and will build the volumes in close collaboration with technology partners Brompton Technology, Epic Games, Lenovo, Nvidia and ROE Visual. Two new stages are already under construction in Vancouver and Toronto, and several others will follow in 2022.

For more information, visit pixomondo.com and whites.com.



Factory Optic Releases Syncro-Link Mark-Zero

Factory Optic has released Syncro-Link Mark-Zero, a lens-metadata interface that provides plug-and-play connectivity between cinema lenses and Unreal Engine for use in virtual-production environments. All available lens data, such as focus distance, iris t-stop, zoom focal length, entrance pupil and depth of field, is streamed to Unreal Engine via an open-source plugin provided by Loled Virtual. Mark-Zero will support metadata streaming from Cooke /i-enabled lenses, and with the Zeiss Extended Data, lens distortion and shading/vignetting is now available to be utilized in UE.

For more information, visit factoryoptic.com.



Creative Tech Taps Elation KL Panels for LED Volumes

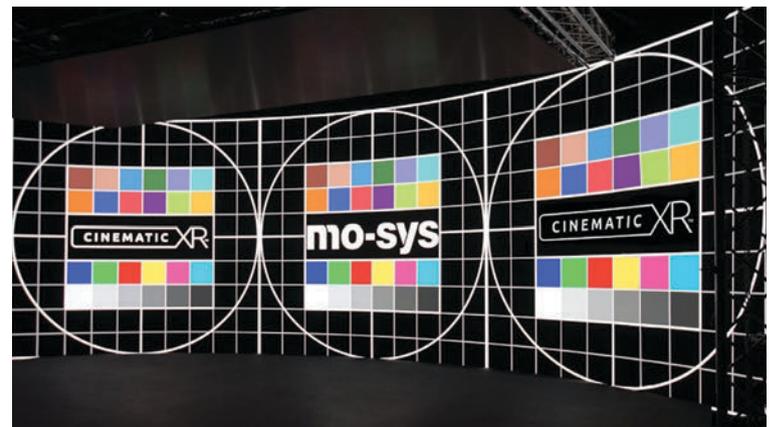
Creative Technology Group is employing 75 Elation Professional KL Panel LED soft lights in its U.S.-based LED studios and has added a number of the full-color-spectrum fixtures to its rental inventory. The KL Panel houses a 295-watt RGBWLC LED array and is color-temperature-adjustable from 2,000-10,000K. CRI is 95, and the unit has a high TLCI value. Creative Technology operates virtual-event LED studios in Chicago, Las Vegas, Los Angeles, New York and Nashville. Each is equipped with XR (mixed reality) and camera-tracking technology that works with powerful graphics.

For more information, visit elationlighting.com.

Mo-Sys Announces VP Pro XR

Mo-Sys has released VP Pro XR, a multi-node media-server solution for LED volumes, to meet the demands of final-pixel XR production. A hardware and software solution combining multi-node nDisplay architecture, an improved VP Pro real-time compositor/synchronizer and a new XR toolset, VP Pro XR is designed to deliver cinematic capabilities and standards for cinematographers and focus pullers. It includes Cinematic XR Focus, which allows 1st ACs to pull focus between real and virtual elements in an LED volume.

For more information, visit mo-sys.com.



Sony Launches Airpeak S1 Drone

Sony Electronics, Inc., will launch its first drone this fall, the Airpeak S1. The aircraft can be equipped with a full-size mirrorless interchangeable-lens Alpha camera. It is compatible with the Alpha 7S series, the Alpha 7R series, the Alpha 9 series, the FX3 and the 8K-capable Alpha 1. The drone's capabilities include the ability to fly up to 55 mph, a maximum angular velocity of 180 degrees, a maximum tilt angle of 55 degrees and wind resistance in wind speeds up to 44.7 mph.

For more information, visit electronics.sony.com.

Anton Bauer Unveils Sony FX6 Slide Pro

Anton Bauer has introduced the Sony FX6 Micro Battery Slide Pro, available in V-Mount and Gold-Mount configurations. The V-Mount and Gold-Mount brackets each weigh 1 pound and attach into the Extension Unit Connector on top of the FX6, creating a secure platform to mount V-Mount or Gold-Mount batteries and a profile that fits neatly into a camera case. The Battery Slide Pro plate increases the output of a 14.4-volt battery to the required 19.5 volts DC, delivered to the camera via the DC-In port. The brackets feature multiple 1/4-20 threaded holes and two integrated P-Tap ports.

For more information, visit antonbauer.com.



Hasselblad Updates Phocus

Hasselblad has released updates to its Phocus software for desktop and mobile devices. Phocus 3.6 for desktop comes with new features, including Focus Bracketing, a Film Grain tool and Adaptive Chromatic Aberration correction. Phocus Mobile 2 1.2 adds the following improvements: a Defringe tool to remove purple and green fringes, the ability to edit JPEG images, support for simultaneous capture to both SD card and iPad, full synchronization of camera white balance, and general UI and system improvements. Phocus Mobile 2 allows the Hasselblad image-editing process to be taken out in the field with X1D II 50C and 907X cameras.

For more information, visit hasselblad.com.



Hollyland Debuts Solidcom M1

Hollyland has released the Solidcom M1, a 1.9GHz full-duplex professional wireless-intercom system that supports eight-channel belt-pack simultaneous communication plus cascaded connection of multiple additional devices. The system is ideal for micro-mid events with a capacity of 100-1,000 guests. It features noise-cancellation algorithms, a high 16KHz sampling rate, professional dynamic microphones and 200Hz-7KHz frequency response. The Solidcom M1 supports a range of up to 1,300' in front of the base station and 160' behind it. Attaching the two included external FRP antennas provides 360-degree transmission in a radius of about 985'.

For more information, visit hollyland-tech.com.



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Chapman/Leonard Announces V-Series Hustler, Hybrid

Chapman/Leonard Studio Equipment, Inc., has released V-series Hustler and Hybrid dollies. This latest design enhances production with a battery system that gives up to eight hours of continuous use on a single charge. Other features include a USB outlet for charging mobile devices such as cellphones and monitors mounted on the dolly. The V-series dollies have a stronger payload capacity on the arm, allowing more options for the grip when it comes to mounting smaller crane arms.

For more information, visit chapman-leonard.com.



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— Dan Laustsen, ASC, DFF

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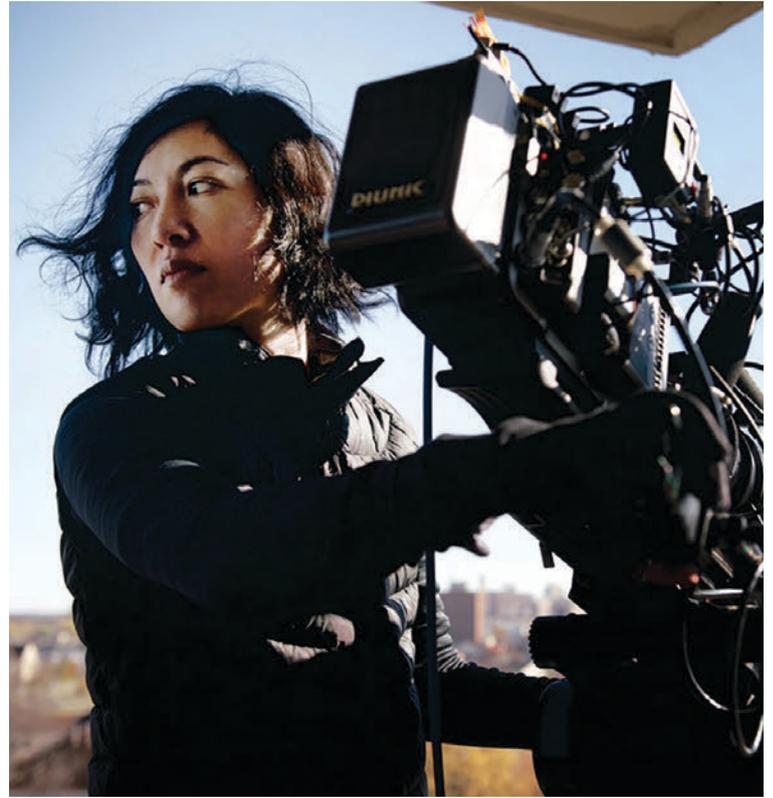


Please contact the ASC to order this unique Leica M10-P "ASC 100 Edition" at theasc.com/leica.



Clubhouse News

Latest Bulletins From the Society



Hardy and Tran Welcomed Into Society

Born in London, **Rob Hardy, ASC, BSC** attended the Newport Film School and Sheffield Hallam University, where he specialized in cinematography. Shortly after he finished his studies, he began shooting music videos for artists including Florence and the Machine, Bjork and Skrillex, as well as commercials for clients including Visa, Cadillac, Samsung, Coca-Cola and more. In 2007, he photographed the feature *Boy A*, directed by John Crowley, which earned him the 2008 BAFTA for Photography and Lighting — Fiction. His camerawork on the television movie *Stolen* earned him the BSC Award for Best Cinematography in a Television Drama. His credits include the TV movie *Red Riding: The Year of Our Lord 1974* and features *The First Grader*, *Shadow Dancer*, *Broken*, *The Invisible Woman* and *Testament of Youth*.

Hardy was nominated for a BSC Award for his work on the sci-fi thriller *Ex Machina*, directed by Alex Garland. He followed this with the adventure-drama *Euphoria*, and then again teamed up with Garland on the sci-fi horror *Annihilation*. That same year, he photographed *Mission: Impossible — Fallout*, directed by Christopher McQuarrie.

Recently, Hardy shot the FX/Hulu series *Devs*, and his forthcoming credits include *The Man From Toronto* and *Men*, another collaboration with Garland.

New ASC member **Quyen “Q” Tran** started her career as a still photographer, and she gained acclaim for her images of the destruction of 9/11. In 2017, she was named one of AC’s Rising Stars of Cinematography, and in 2019 she was recognized by *Variety* in its annual “10 Cinematographers to Watch” list. That same year, she photographed the Netflix miniseries *Unbelievable*, which won a Peabody Award, followed by the hit indie sci-fi comedy *Palm Springs*, which received numerous accolades. Her feature credits include *Dark Was the Night* (aka *Behold My Heart*), *The Little Hours*, *Deidra & Laney Rob a Train*, *The Night Stalker* and *The Automatic Hate*. Tran is a frequent collaborator of director Grace Lee, and their documentary feature *American Revolutionary: The Evolution of Grace Lee Boggs* also won a Peabody Award. She has photographed several pilots, including HBO’s *Here and Now* and *Camping*, and FX’s *A Teacher*. Her upcoming credits include HBO Max’s *Minx*, Netflix’s *Maid* and Apple TV Plus’ *Roar*.

The cinematographer also serves as a mentor for Film Independent’s Project Involve and the Academy Gold programs, as well as for several women and BIPOC, and is involved in many philanthropic endeavors. At the start of the Covid-19 pandemic in 2020, Tran and cinematographer Jeanne Tyson cofounded “Doughrectors of Photography” in response to the food crisis in Los Angeles. To date, the endeavor has raised enough money to generate more than 140,000 meals for the L.A. Food Bank.

Wrap Shot

Paterson



PHOTO FROM THE ASC ARCHIVE.

A Walking Shot

Cinematographer Frederick Elmes, ASC and director Jim Jarmusch have collaborated through the decades on several indie features, including *Night on Earth* and *Broken Flowers*. Here, Jarmusch (right) and Elmes work out a shot with Steadicam operator Mark Schmidt during production of the 2016 drama *Paterson*.

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