

of the police—Baltimore (a frequent destination for APS meetings), New York, and St Louis, for example—might be removed from future consideration. The message APS would send would be powerful. Not only would it say that we do not condone racist policing, it would support the protection of the society's members and guests who might, for example, venture out onto the said city's streets while being Black.

The request here is simple: Stop doing business in cities in which the police kill Black citizens. The action would be similar to the divestment movement in South Africa in the 1980s, which was pivotal in

ending apartheid. We hope other professional societies follow suit, but as with all causes, someone has to be the first. Physicists should be proud to take the lead here.

Philip Phillips

(dimer@illinois.edu)

Michael B. Weissman

University of Illinois at Urbana-Champaign

The language of wildfires

The Quick Study "Fluid dynamics of wildfires" by Rod Linn (PHYSICS TODAY, November 2019, page 70) applies physics principles to the increasingly urgent global issue of wildfires. It is both thought provoking and relevant.

Included in the piece are the phrases "rising air draws in air below it . . . in much the same way as air is drawn into a fireplace and rises up a chimney," "a rising plume can draw cool air," and "ambient wind drawn into the gaps." In those contexts, the dictionary meanings of the

word "draw" seem to invite the common misapprehension that the heated air of a wildfire is somehow pulled or drawn upward from above.

Heated gases from wildfires are not drawn upward, nor do they rise spontaneously. Wildfire gases are better characterized as being pushed, pressed, or buoyed upward from beneath, ultimately by ambient pressure. The heated gases of a wildfire, much like air bubbles rising in water, are driven upward by a hydrostatic pressure gradient. The greater pressure is at the lower elevation, as established by gravity. Absent gravity, the gradient would disappear and the heated gases would not rise but would instead smother the wildfire.

Precise language is important when talking about science, particularly to accurately represent wildfires as being pushed from behind or below rather than to suggest, as is common in popular parlance, that they are drawn or pulled upward from above.

Evan Jones

(revwin@yahoo.com)

Sierra College

Rocklin, California **PT**

CONTACT PHYSICS TODAY

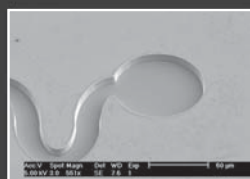
Letters and commentary are encouraged and should be sent by email to ptletters@aip.org (using your surname as the Subject line), or by standard mail to Letters, PHYSICS TODAY, American

Center for Physics, One Physics

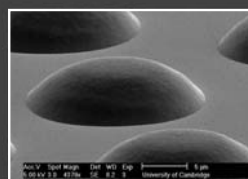
Ellipse, College Park, MD 20740-3842. Please include your name, work affiliation, mailing address, email address, and daytime phone number on your letter and attachments. You can also contact us online at <https://contact.physicstoday.org>. We reserve the right to edit submissions.

MicroWriter ML[®] 3

Direct Write Maskless
Lithography Available
on Your Benchtop!



Microfluidics



Microlens



2-D materials

The Durham Magneto Optics MicroWriter ML3 series of sub-micron, high-resolution lithography instruments are ideal for individual R&D laboratories.

- Maximum writing area up to 300 mm x 300 mm
- Minimum feature size down to 0.4 μm
- Alignment microscope objectives: x3, x5, x10, x20 and x50
- Fast writing speeds
- Very compact machines with small footprint can be used on benchtop
- Fully automated – all operations (including optics) changed through software
- Fully upgradable systems
- Intuitive and easy-to-use software
- Very competitively priced



Quantum Design

10307 Pacific Center Court, San Diego, CA 92121
Tel: 858.481.4400 info@qdusa.com www.qdusa.com

