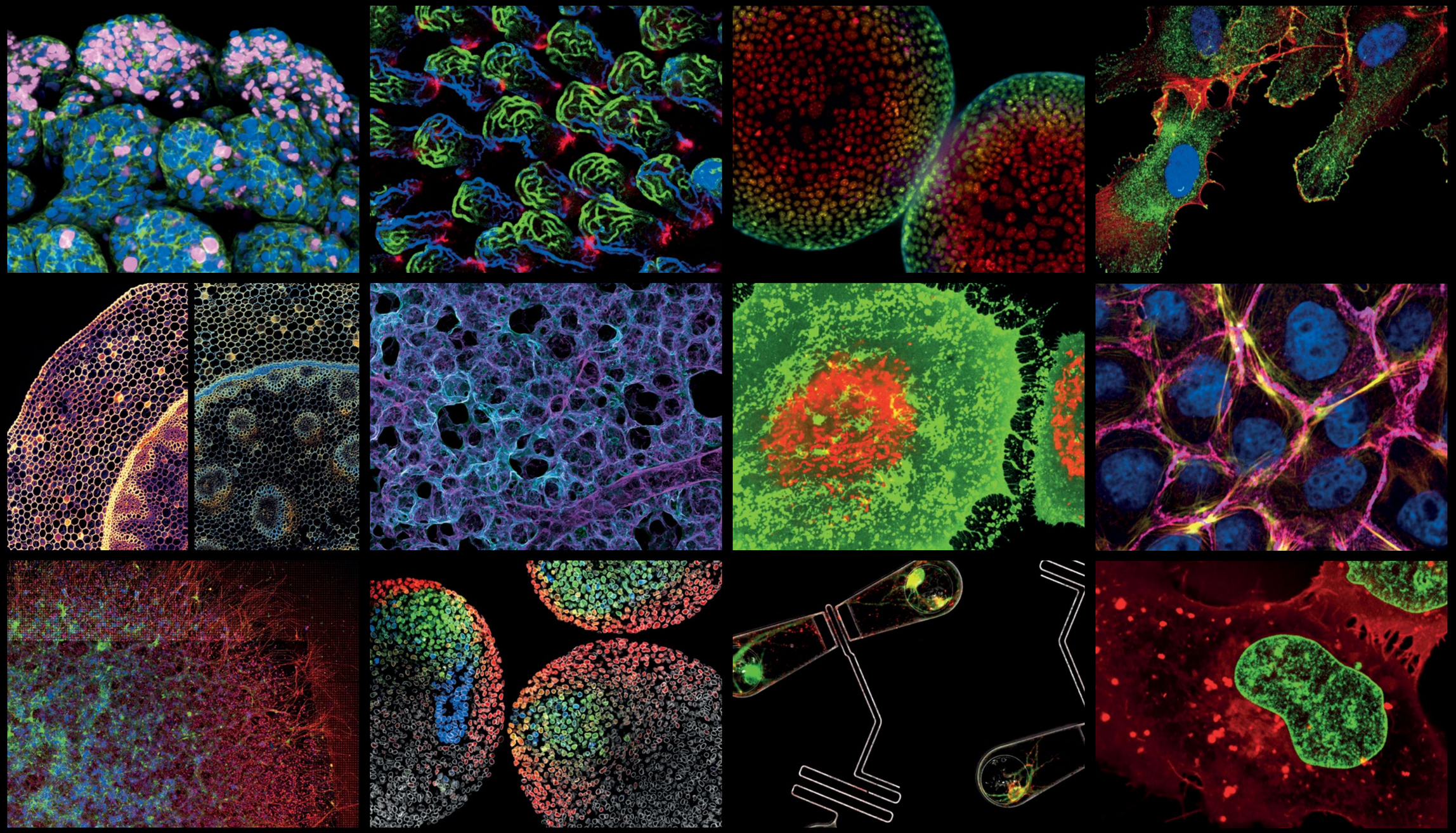
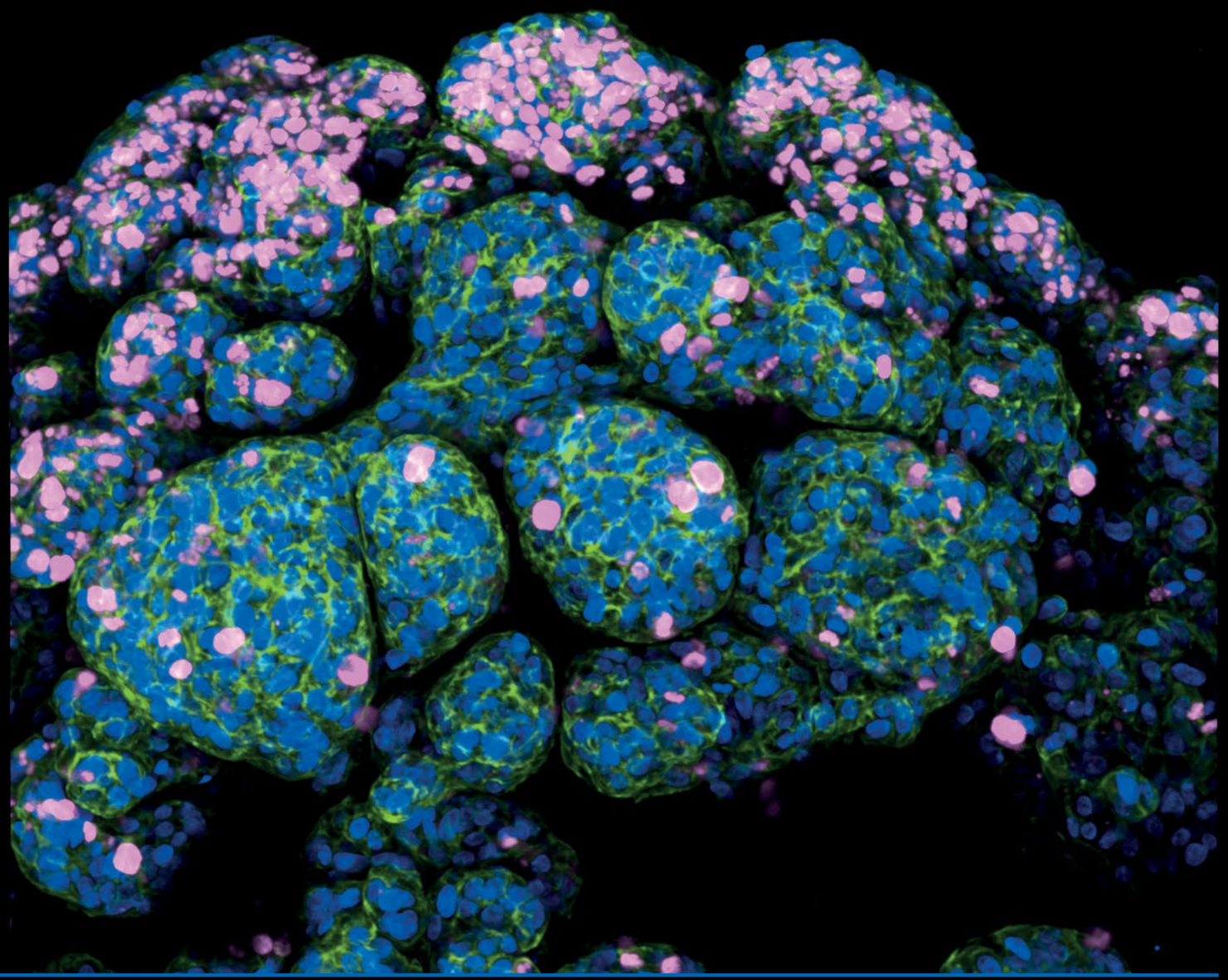
ibidi® cells in focus



2023

ibidi® cells in focus



JANUARY

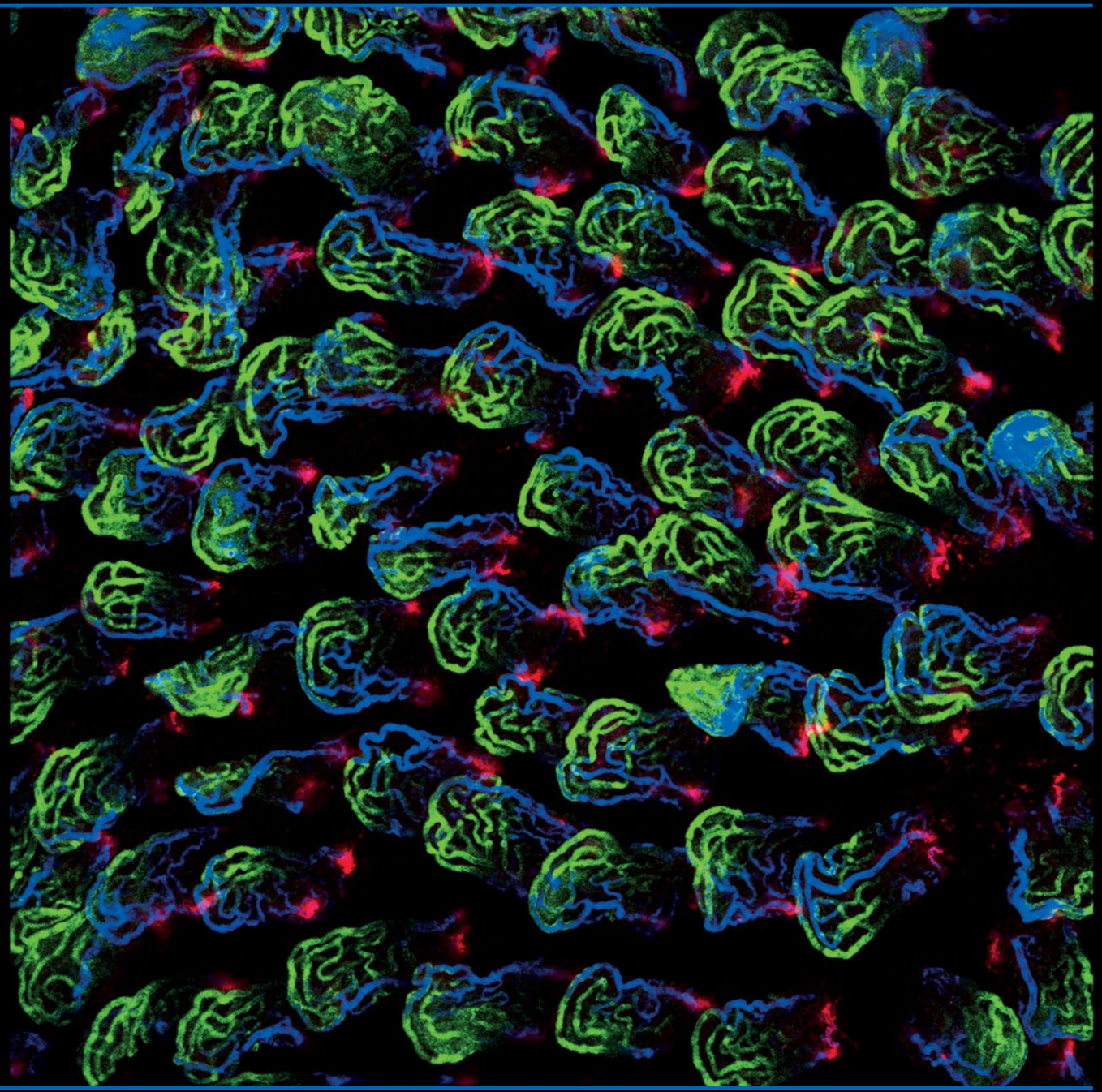
KAI-WEN KAN

X-DIMENSION CENTER FOR MEDICAL RESEARCH AND TRANSLATION, CHINA MEDICAL UNIVERSITY HOSPITAL, TAICHUNG, TAIWAN

Fluorescent microscopy of a human breast cancer organoid derived from a tumor biopsy. The image shows the expression of Ki67 (magenta), a marker of highly proliferative cells, at the bud tips. The cytoskeleton was labeled with phalloidin (F-actin, green) and the nuclei with Hoechst (blue). The organoid was cultured and imaged in a µ-Dish $^{35\ mm,\ high}$ Glass Bottom. The image was taken on an ANDOR Dragonfly High Speed confocal microscope system with a 25x objective.

SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE
1	2	3	4	5	6	7	**8**	9	10	11	12	13	14	**15**	16	17	18	19	20	21	**22**	23	24	25	26	27	28	**29**	30	31

ibidi® cells in focus



FEBRUARY

RHYLL SMYTHE

THE HEART RESEARCH INSTITUTE, UNIVERSITY OF SYDNEY, AUSTRALIA

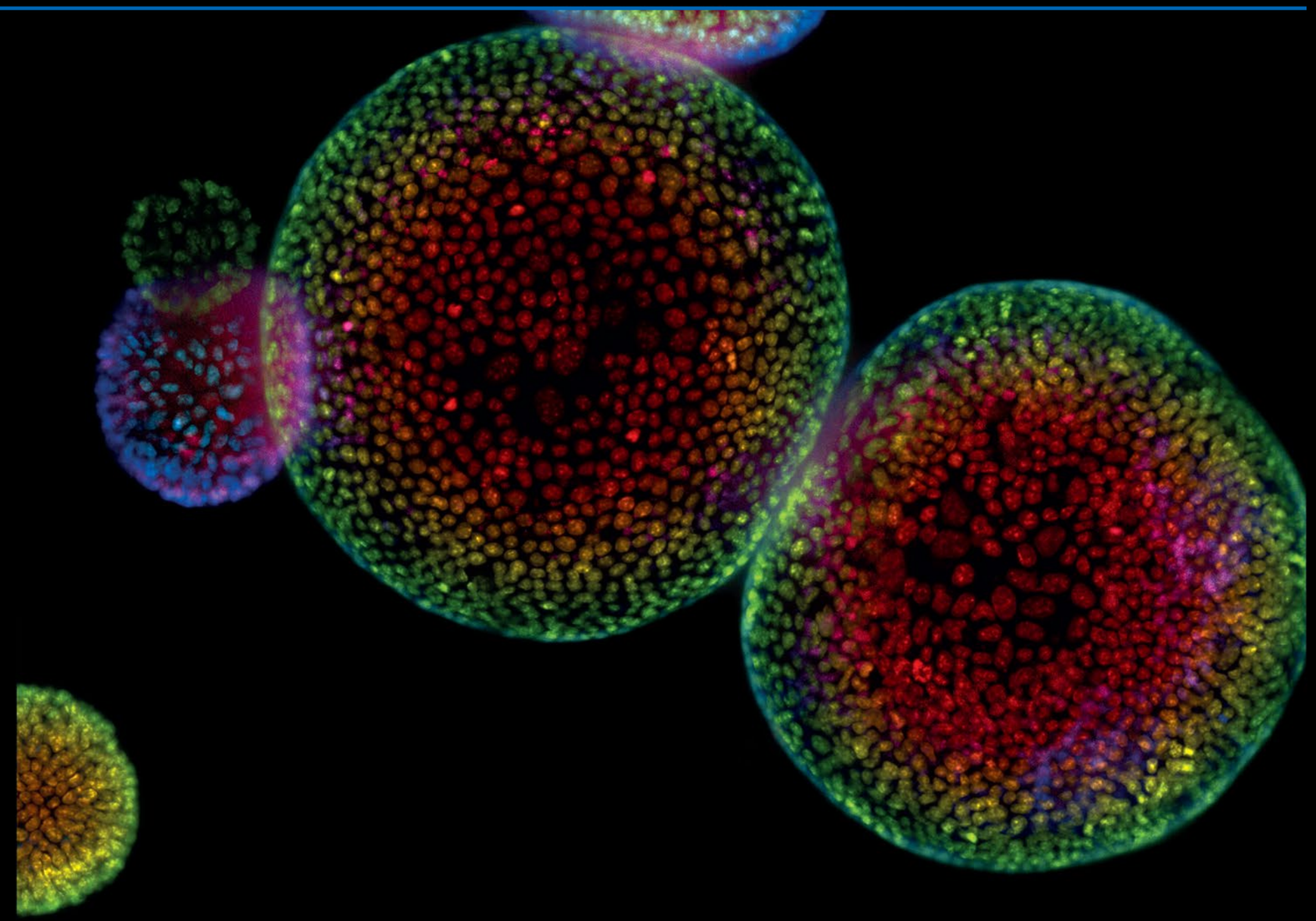
Described by my colleagues as an “alien rave”, this image depicts a mouse’s villi with red blood cells (green), cell death marker Annexin V (red), and platelets (blue), clogging the microvasculature in the villi after ischemia reperfusion injury. These images form part of a mouse model investigating the drivers behind endothelial dysfunction and microvascular obstruction. Image acquired using a µ-Dish $^{35\ mm,\ high}$ Glass Bottom on a Zeiss 880 confocal microscope with a 10x objective.

Follow @labstagramm on Instagram.

WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE
1	2	3	4	**5**	6	7	8	9	10	11	**12**	13	14	15	16	17	18	**19**	20	21	22	23	24	25	**26**	27	28

ibidi® cells in focus

MARCH



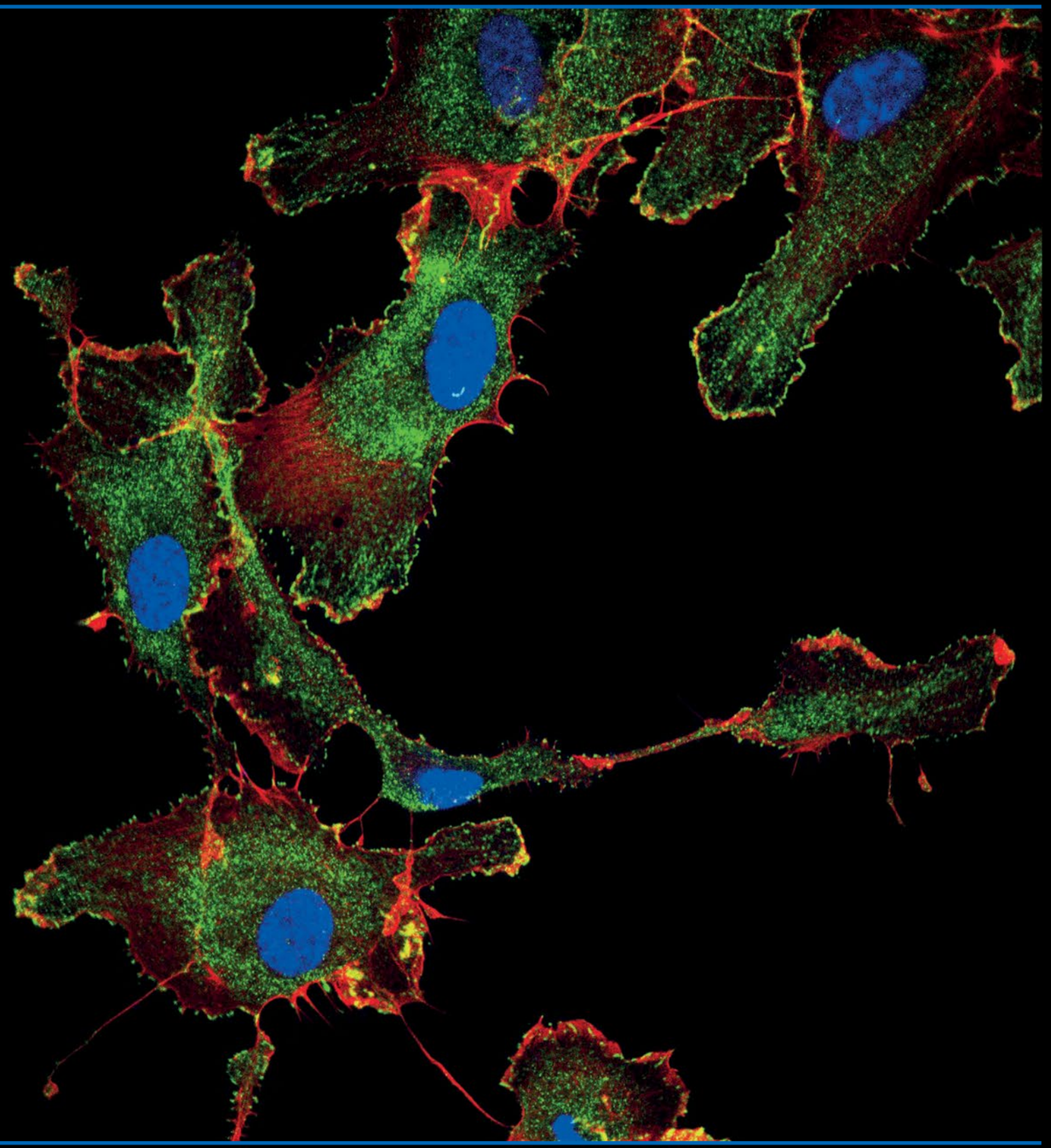
FELIX SPIRA, EMILIE KEIDEL

MOLECULAR DEVICES GMBH, PUCH/HALLEIN, AUSTRIA

Maximum projection of a hepatic organoid acquired on an IXM-HT.ai automated spinning disk confocal microscope with a 20x water immersion objective. The organoids were cultured and imaged in a µ-Plate 96 Well Black. Depth information is encoded by color.

WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI
1	2	3	4	**5**	6	7	8	9	10	11	**12**	13	14	15	16	17	18	**19**	20	21	22	23	24	25	**26**	27	28	29	30	31

ibidi® cells in focus



APRIL

MAXIME CAMMERAAT

THE MARGADANT LAB, VUMC, AMSTERDAM
UNIVERSITY MEDICAL CENTER, NETHERLANDS

This image shows human umbilic venous endothelial cells (HUVECs) treated with blebbistatin to show loss of actin stress fibers and focal adhesions, cultured in a µ-Slide 8 Well. Cells were stained with SPY650-FastAct™ (actin, red), Hoechst (nuclei, blue) and anti-phospho-tyrosine (focal adhesions, green). The image was acquired using a Nikon A1R with a 63x oil objective.

Follow Maxime Cammeraat on LinkedIn.

SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

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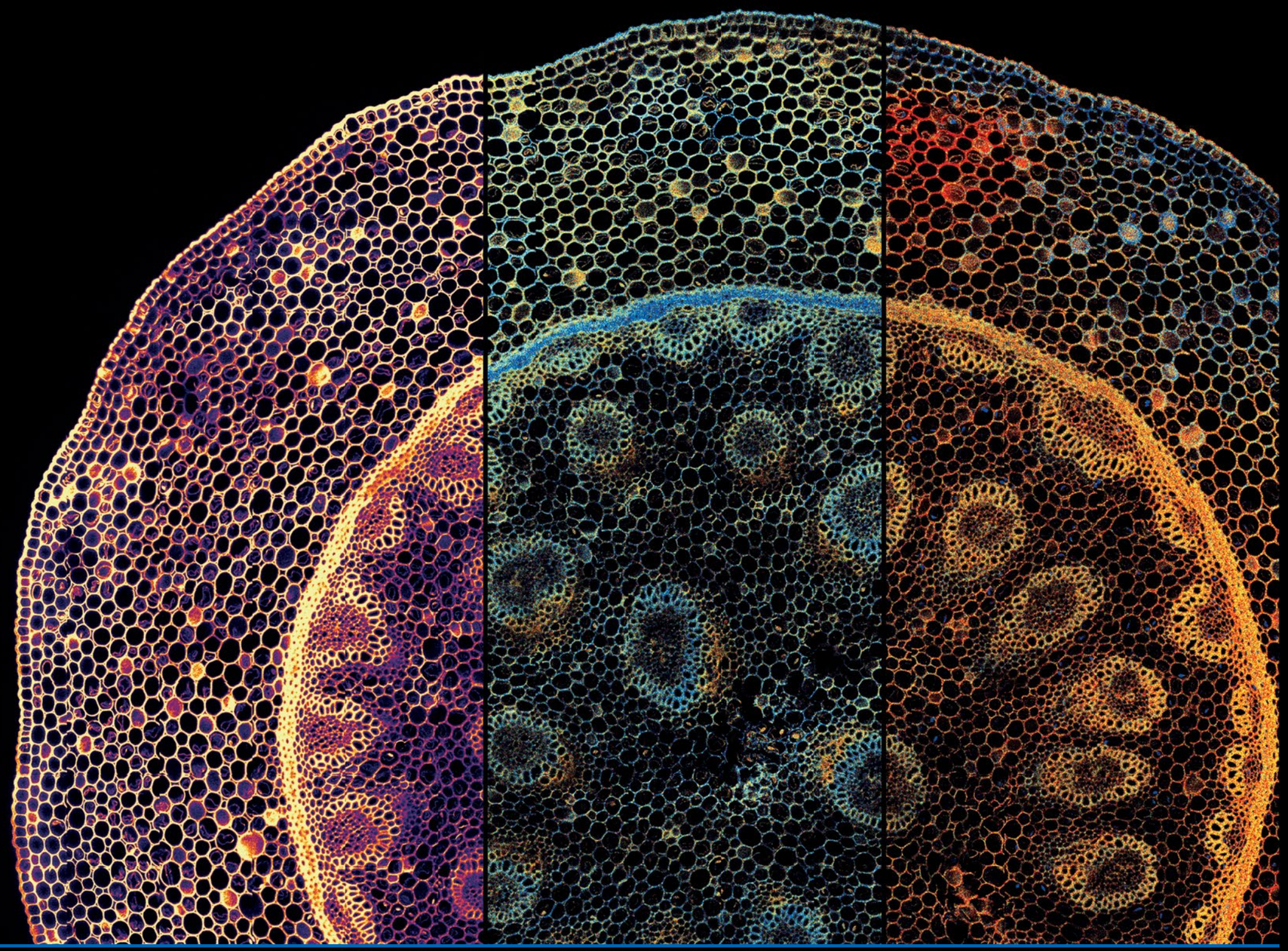


MAY

LORENZO SCIPIONI

UNIVERSITY OF CALIFORNIA, IRVINE, UNITED STATES

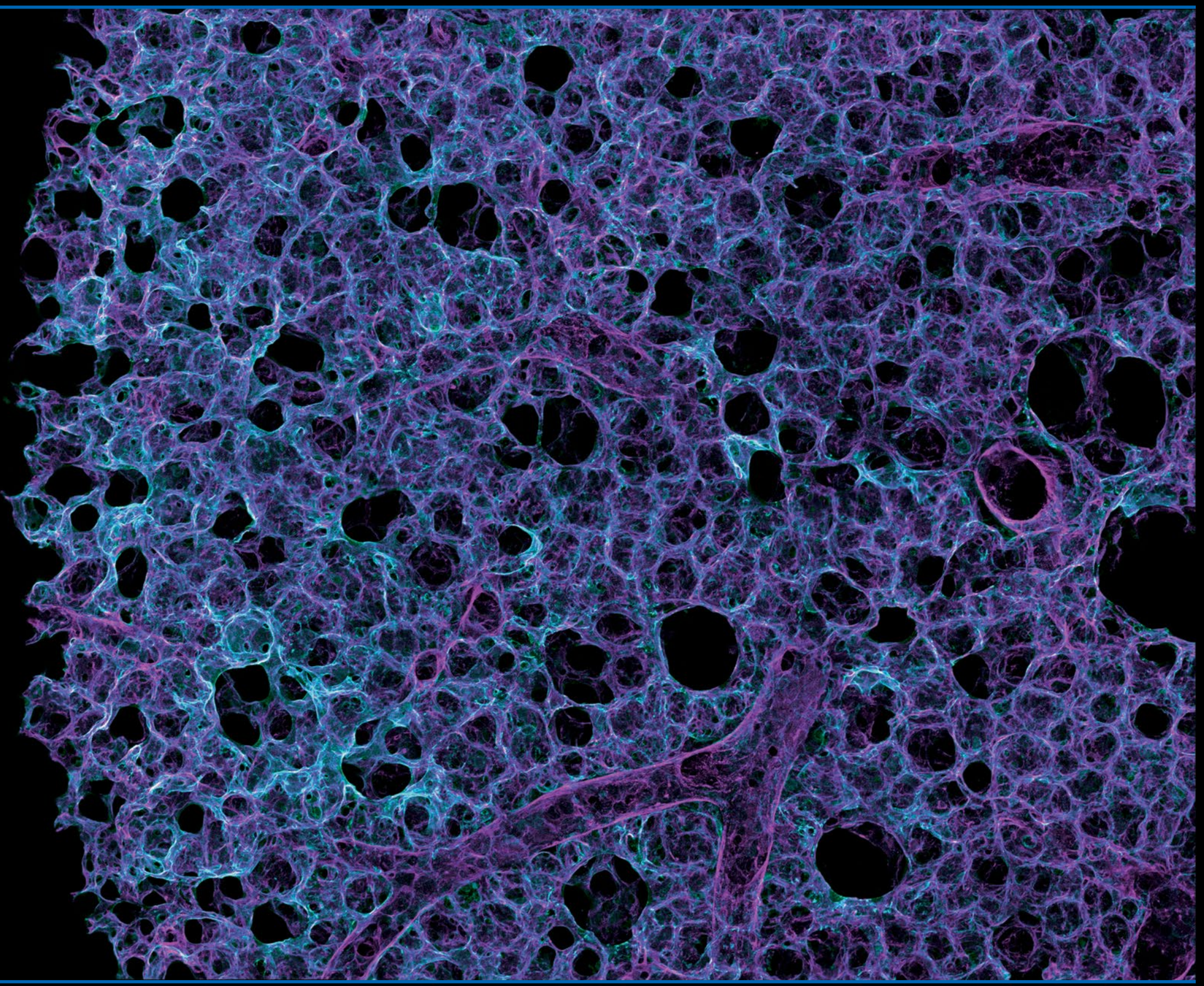
Intensity (left), fluorescence lifetime (center) and spectral (right) imaging of a section of a Convallaria (lily of the valley) root, imaged with a Phasor S-FLIM microscope with a 20x objective.

Follow @LorenzoScipion3 on Twitter.

MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

ibidi® cells in focus

JUNE



JONAS STEWEN

MAX PLANCK INSTITUTE FOR MOLECULAR BIOMEDICINE, MÜNSTER, GERMANY

Immunofluorescence staining of a murine lung section. Antibodies against RAGE were used to label type I alveolar epithelial cells (cyan), and CD31 was stained to highlight endothelial cells of the lung vasculature (magenta). The image was acquired using a Zeiss LSM780 confocal microscope with a 20x objective.

Follow @StewenJonas on Twitter and @allthingsvascular on Instagram.

THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI
1	2	3	**4**	5	6	7	8	9	10	**11**	12	13	14	15	16	17	**18**	19	20	21	22	23	24	**25**	26	27	28	29	30

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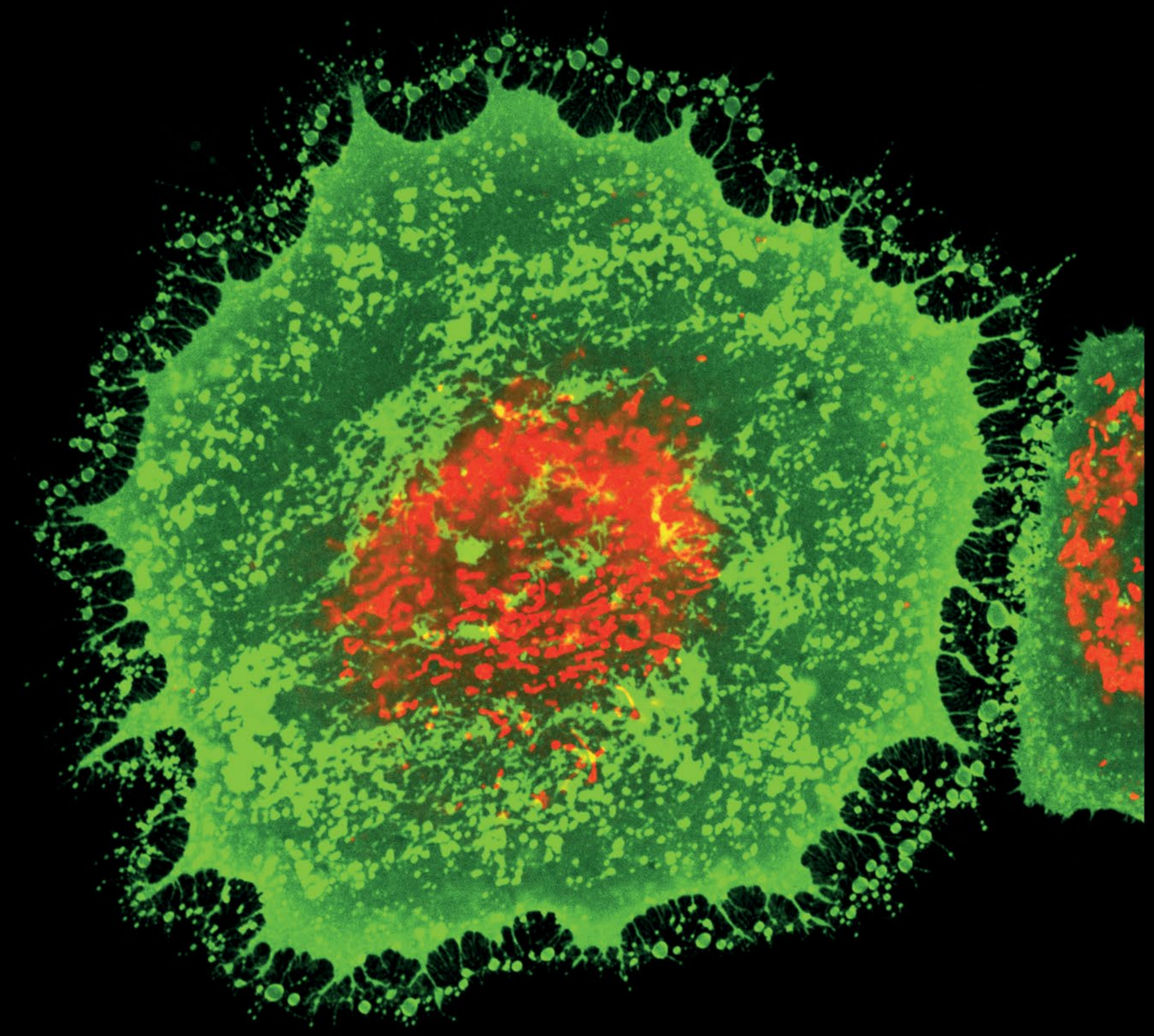


JULY

BARBORA SMOLKOVÁ,
OLEG LUNOV

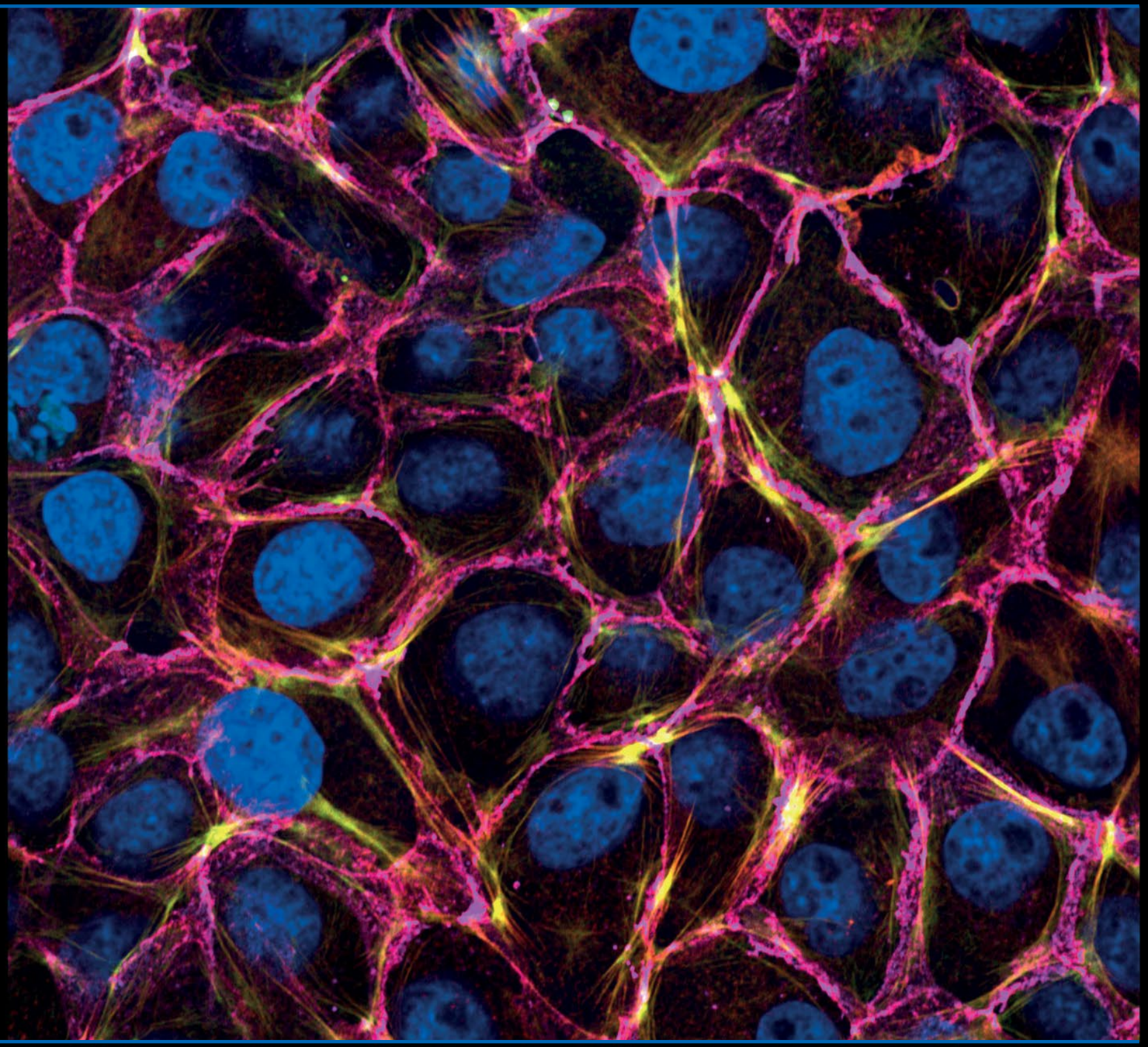
FZU - INSTITUTE OF PHYSICS OF THE CZECH ACADEMY OF SCIENCES, PRAGUE, CZECH REPUBLIC

Confocal microscopy of a human Alexander cell derived from liver hepatoma detaching from the surface. Cells were cultured in a µ-Slide VI $^{0.4}$ and stained with CellMask (green, cell membrane) and Mitotracker (red, mitochondria). The image was acquired using the Olympus IXplore SpinSR spinning disk confocal microscope using a 100× silicone immersion objective.

Follow @OlegLunov and @BorkaSmolka on Twitter and @borka_smolka on Instagram.

SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

ibidi® cells in focus



AUGUST

PABLO ACEITON

PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE,
SANTIAGO, CHILE

The image shows the actin cytoskeleton organization in Madin-Darby canine kidney (MDCK) epithelial cells on soft substrate (15 KPa) functionalized with fibronectin. Cells were stained for E-cadherin (magenta), F-actin (red), and Myosin regulatory light chain (RLC, green). Cell nuclei were stained with Hoechst (blue). The image was acquired using a Zeiss Airyscan with a 60x objective.

Follow @pabloesteban21 on Instagram and Pablo Aceiton on LinkedIn.

TUE	WED	THU	FRI	SAT	**SUN**	MON	TUE	WED	THU	FRI	SAT	**SUN**	MON	TUE	WED	THU	FRI	SAT	**SUN**	MON	TUE	WED	THU	FRI	SAT	**SUN**	MON	TUE	WED	THU
1	2	3	4	5	**6**	7	8	9	10	11	12	**13**	14	15	16	17	18	19	**20**	21	22	23	24	25	26	**27**	28	29	30	31

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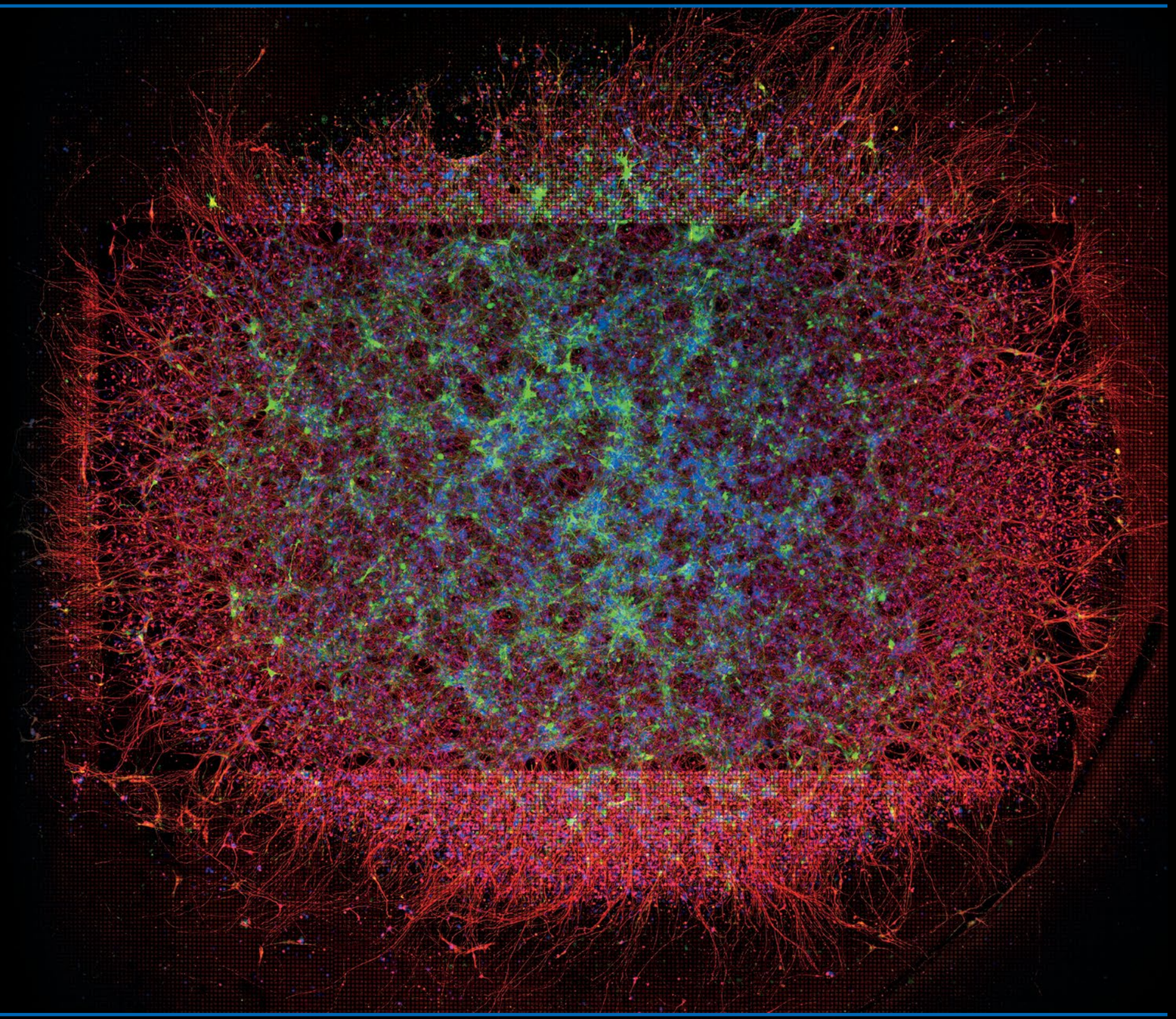


SEPTEMBER

ELVIRA GUELLA, SILKE SEYOCK

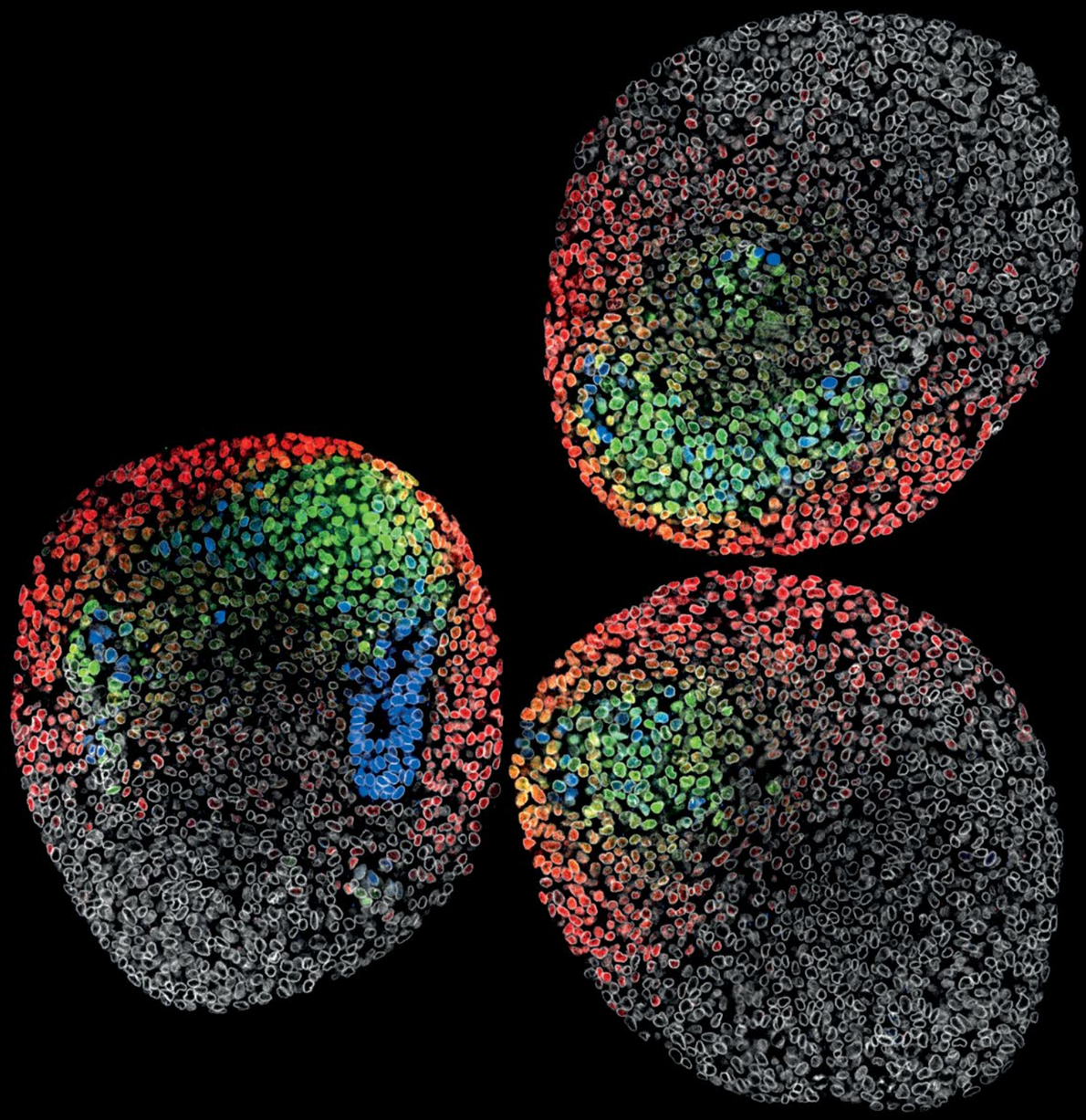
MAXWELL BIOSYSTEMS AG, ZURICH, SWITZERLAND

Human iPSC-derived glutamatergic neurons and astrocytes were plated as a co-culture on top of a protein-coated MaxOne Chip, a CMOS-based high-density microelectrode array (HD-MEA) for *in vitro* electrophysiology. MaxOne captures the electrical activity of neurons at sub-cellular resolution, label-free. Neuronal cells were stained against β III tubulin (red), astrocytes against S100β (green) and cell nuclei with DAPI (blue). Images were acquired using a confocal microscope Zeiss LSM 780 with a 5x objective.

Follow @mxwbio on Twitter and MaxWell Biosystems on LinkedIn.

FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	**3**	4	5	6	7	8	9	**10**	11	12	13	14	15	16	**17**	18	19	20	21	22	23	**24**	25	26	27	28	29	30

ibidi® cells in focus



OCTOBER

MATTHEW FRENCH

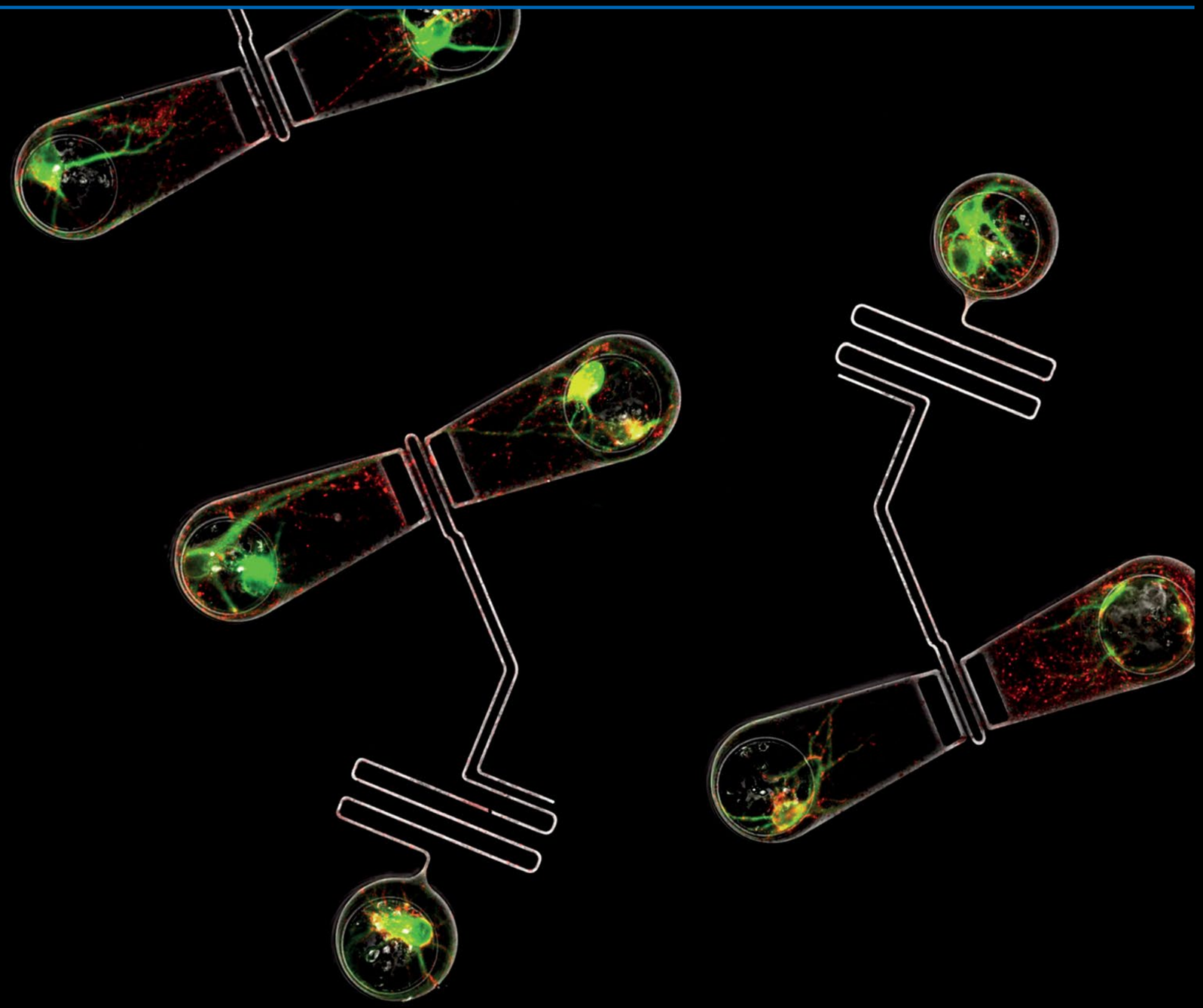
UNIVERSITY OF EDINBURGH, UNITED KINGDOM

Here are three gastruloids, which are 3D aggregates of murine embryonic stem cells, just before axis extension. They were imaged on a µ-Slide 8 Well and stained for Sox2 (blue), Brachyury (T, green), Tbx6 (red), and LaminB1 (gray), highlighting the spatial arrangement and differentiation order of these transcription factors in neuromesodermal progenitors (NMPs). The gastruloids were mounted in BABB and imaged on a Leica SP8 confocal microscope with a 40x oil objective using the Leica LIGHTNING system.

Follow Matt French on LinkedIn.

SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

ibidi® cells in focus



NOVEMBER

JOSÉ MATEUS [1], SEAN WEAVER [2]

[1] I3S - INSTITUTO DE INVESTIGAÇÃO E INOVAÇÃO EM SAÚDE DA UNIVERSIDADE DO PORTO, PORTUGAL

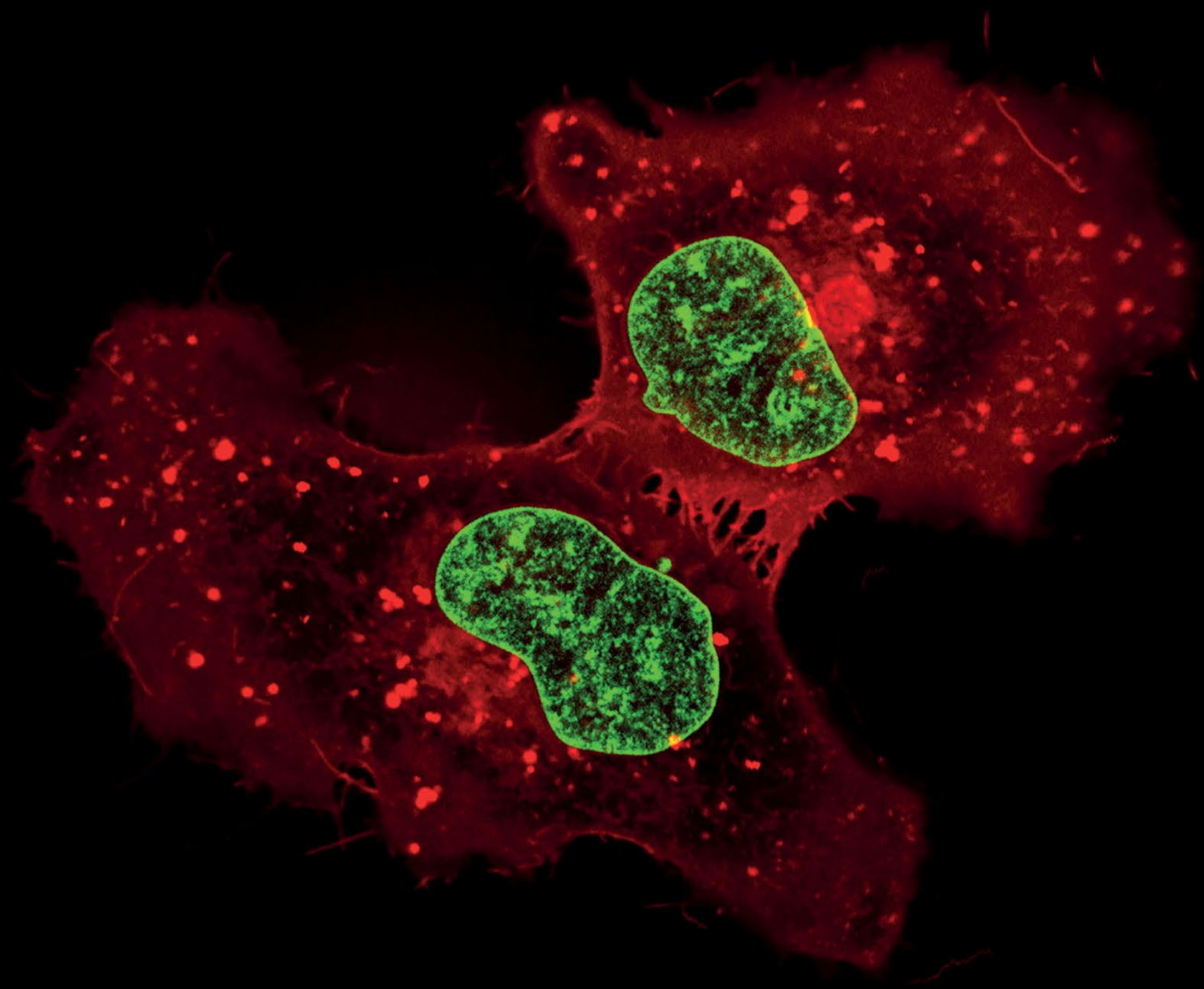
[2] ETH ZURICH, SWITZERLAND

Bringing order to chaos: engineered neuronal micro-circuits on a µ-Dish [35 mm, low]. Specialized microfluidic designs were used to allow the formation of very well-defined circuits that are composed of only a few neurons interconnected by nano- and microchannels. Rat hippocampal neurons were transduced for PSD-95 (red) and GFP (green). The image was acquired using a FluoView 3000 (Olympus) confocal laser scanning microscope with a 30x objective.

Follow @Jose_C_Mateus on Twitter.

WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU
1	2	3	4	**5**	6	7	8	9	10	11	**12**	13	14	15	16	17	18	**19**	20	21	22	23	24	25	**26**	27	28	29	30

ibidi® cells in focus



DECEMBER

ANA KRISELJ

JOZEF STEFAN INSTITUTE, LJUBLJANA, SLOVENIA

Human microglial cells (HMC3) were stained with Hoechst (nuclei, green) and ATTO 647N DPPE (red), a lipophilic fluorescent probe. After incorporation of the phospholipid into the plasma membrane, the fluorophore is located at the water/lipid interface of the membrane. Over time, it is incorporated into the cell, labeling further structures with lipid membranes. The image was acquired in a µ-Slide 8 Well ^{high} Glass Bottom using super-resolution (STED) mounted on an Olympus IX83 microscope with a 60x objective lens.

Follow @StrancarLab on Twitter.

FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN
1	2	**3**	4	5	6	7	8	9	**10**	11	12	13	14	15	16	**17**	18	19	20	21	22	23	**24**	25	26	27	28	29	30	**31**

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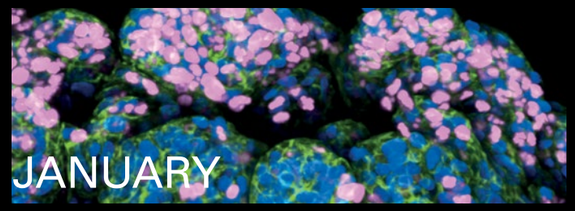

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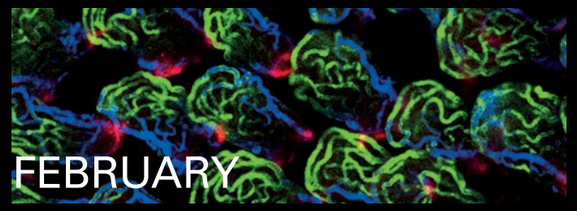

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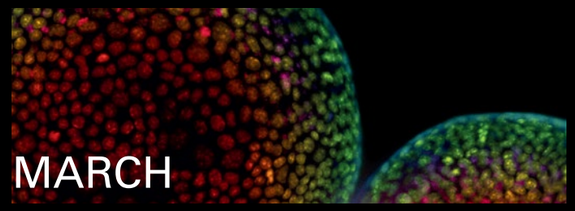

MARCH

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MOLECULAR DEVICES GMBH, PUCH/HALLEIN, AUSTRIA

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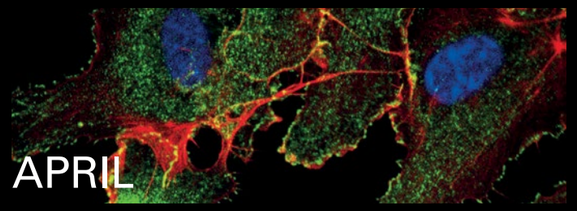

APRIL

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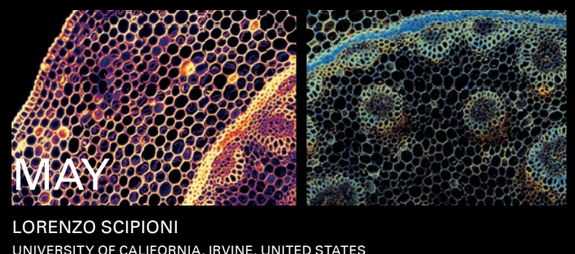
Follow Maxime Cammeraat on LinkedIn.



MAY

LORENZO SCIPIONI

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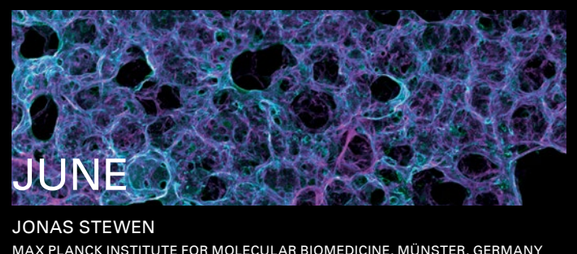
Intensity (left), fluorescence lifetime (center) and spectral (right) imaging of a section of a Convallaria (lily of the valley) root, imaged with a Phasor S-FLIM microscope with a 20x objective.

Follow @LorenzoScipion3 on Twitter.



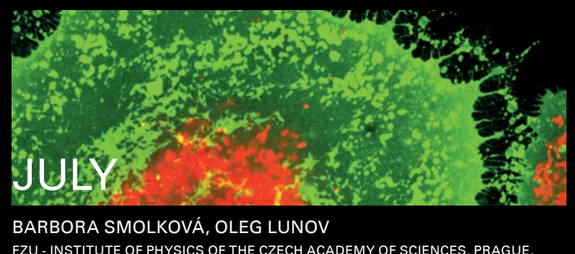
JUNE

JONAS STEWEN

MAX PLANCK INSTITUTE FOR MOLECULAR BIOMEDICINE, MÜNSTER, GERMANY

Immunofluorescence staining of a murine lung section. Antibodies against RAGE were used to label type I alveolar epithelial cells (cyan), and CD31 was stained to highlight endothelial cells of the lung vasculature (magenta). The image was acquired using a Zeiss LSM780 confocal microscope with a 20x objective.

Follow @StewenJonas on Twitter and @allthingsvascular on Instagram.



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Follow @OlegLunov and @BorkaSmolka on Twitter and @borka_smolka on Instagram.

AUGUST

PABLO ACEITON

PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE, SANTIAGO, CHILE

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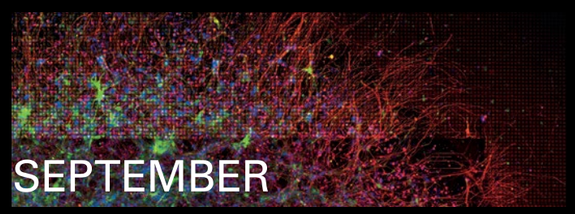

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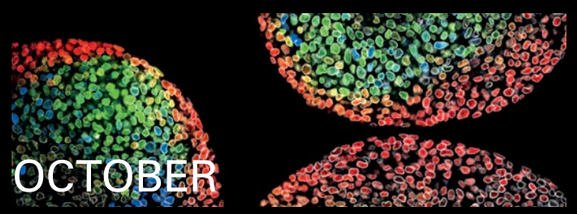
Follow @mxwbio on Twitter and MaxWell Biosystems on LinkedIn.



OCTOBER

MATTHEW FRENCH

UNIVERSITY OF EDINBURGH, UNITED KINGDOM

Here are three gastruloids, which are 3D aggregates of murine embryonic stem cells, just before axis extension. They were imaged on a µ-Slide 8 Well and stained for Sox2 (blue), Brachyury (T, green), Tbx6 (red), and LaminB1 (gray), highlighting the spatial arrangement and differentiation order of these transcription factors in neuromesodermal progenitors (NMPs). The gastruloids were mounted in BABB and imaged on a Leica SP8 confocal microscope with a 40x oil objective using the Leica LIGHTNING system.

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NOVEMBER

JOSÉ MATEUS [1], SEAN WEAVER [2]

[1] I3S - INSTITUTO DE INVESTIGAÇÃO E INOVAÇÃO EM SAÚDE DA UNIVERSIDADE DO PORTO, PORTUGAL, [2] ETH ZURICH, SWITZERLAND

Bringing order to chaos: engineered neuronal microcircuits on a µ-Dish $^{35\ mm,\ low}$. Specialized microfluidic designs were used to allow the formation of very well-defined circuits that are composed of only a few neurons interconnected by nano- and microchannels. Rat hippocampal neurons were transduced for PSD-95 (red) and GFP (green). The image was acquired using a FluoView 3000 (Olympus) confocal laser scanning microscope with a 30x objective.

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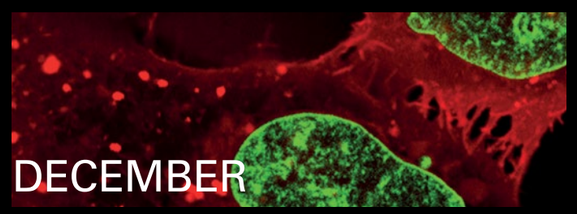

DECEMBER

ANA KRISELJ

JOZEF STEFAN INSTITUTE, LJUBLJANA, SLOVENIA

Human microglial cells (HMC3) were stained with Hoechst (nuclei, green) and ATTO 647N DPPE (red), a lipophilic fluorescent probe. After incorporation of the phospholipid into the plasma membrane, the fluorophore is located at the water/lipid interface of the membrane. Over time, it is incorporated into the cell, labeling further structures with lipid membranes. The image was acquired in a µ-Slide 8 Well ^{high} Glass Bottom using super-resolution (STED) mounted on an Olympus IX83 microscope with a 60x objective lens.

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