

# DrylabNews

for investors & friends · May 2017



Welcome to our first newsletter of 2017! It's been a while since the last one, and a lot has happened. We promise to keep them coming every two months hereafter, and permit ourselves to make this one rather long. The big news is the beginnings of our launch in the American market, but there are also interesting updates on sales, development, mentors and (of course) the investment round that closed in January.

**New capital:** The investment round was successful. We raised 2.13 MNOK to match

the 2.05 MNOK loan from Innovation Norway. Including the development agreement with Filmlance International, the total new capital is 5 MNOK, partly tied to the successful completion of milestones. All formalities associated with this process are now finalized.

**New owners:** We would especially like to warmly welcome our new owners to the Drylab family: Unni Jacobsen, Torstein Jahr, Suzanne Bolstad, Eivind Bergene, Turid Brun, Vigdis Trondsen, Lea Blindheim, Kristine

**34**  
meetings  
NY · SF  
LA · LV

Academy of Motion Picture Arts and Sciences · Alesha & Jamie Metzger · Amazon  
AWS · Apple · Caitlin Burns, PGA · Carlos Melcer · Chimney L.A. · Dado Valentic ·  
Dave Stump · DIT WIT · ERA NYC · Facebook · Fancy Film · FilmLight · Geo Labelle ·  
Google · IBM · Innovation Norway (NYC) · Innovation Norway (SF) · International  
Cinematographers Guild · NBC · Local 871 · Netflix · Pomfort · Radiant Images ·  
Screening Room · Signiant · Moods of Norway · Tapad · Team Downey

Holmsen, Torstein Hansen, and Jostein Aanensen. We look forward to working with you!

**Sales:** Return customer rate is now 80%, proving value and willingness to pay. Film Factory Montreal is our first customer in Canada. Lumiere Numeriques have started using us in France. We also have new customers in Norway, and high-profile users such as Gareth Unwin, producer of Oscar-winning *The King's Speech*. Revenue for the first four months is 200 kNOK, compared to 339 kNOK for all of 2016. We are working on a partnership to safeguard sales in Norway while beginning to focus more on the US.



**New team members:** We've extended our organization with two permanent developers based in Łódź, the film capital of Poland. Two highly skilled interns from the University of Oslo's Entrepreneurship Program, will be working on market research until mid-June (starting in March), preparing for the US launch. Also, two computer science students are working as part-time interns during spring, on machine learning and analysis research, as well as innovative architectures based on the Swift language. We hope our interns will consider sticking around!

**New mentor:** We are honored to have Caitlin Burns joining us as a mentor. She's an

accomplished producer based in New York, an active member of the Producers Guild of America, and the collaboration has already yielded good results, including valuable contacts for our visit in Los Angeles. Oscar-winning VFX supervisor *Dave Stump* joined us earlier.

**New York, St. Louis, San Francisco and Los Angeles:** Pontus and Audun did a tour of the US in February and March, meeting users, partners and potential customers. The trip was very successful, with several high points, including meetings with Netflix, the Academy of Motion Picture Arts and Sciences, the International Cinematographers Guild, Local 871 (the script supervisors' union), one of the world's leading DITs, and Apple. See the separate attachment for a more detailed summary.

**NAB:** Andreas and Audun travelled to the National Association of Broadcasters convention (NAB) in Las Vegas for three hectic days in April. NAB gathers 100,000 participants from film and TV. It's a very efficient way of meeting people in the business, and getting an updated picture of the business landscape. The most exciting meeting was with PIX System, one of our most important competitors. It was interesting to note that they regarded the indie market as bigger than their own.

Andreas was able to secure us an invitation to the DIT-WIT party, with some of the world's leading DITs in attendance. It was a great place for informal feedback on Drylab Viewer. The pattern was the same as for other users: Initial polite interest turns to real enthusiasm the moment someone is able to personally try Drylab Viewer! We also met with Pomfort and Apple about our on-going collaborations; ARRI and Teradek/



Paralinx about camera integration; Amazon, Google and IBM about cloud computing.

**WWDC and Silicon Valley:** We were very pleasantly surprised to be invited by Apple to their World Wide Developers Conference in San Jose in June, despite not having applied. It's a valuable chance to learn and make new connections. We're also setting aside time to meet other potential partners.

**Cine Gear:** We have decided not to attend the Cine Gear expo in L.A. this year, since feedback from many users about the show were mixed, and our planned beta version of 3.0 is slightly delayed.

**Development and launch:** Development is around one month behind our original schedule. We expect the delay to decrease, with new developers on board.

The launch of Drylab 3.0 will take place at the International Broadcasters Convention in Amsterdam in September, and we are working hard to get solid feedback from pilot users before then.

**Annual General Meeting:** Drylab's AGM will be held on June 16th at 15:00. An invitation will be distributed to all owners well in advance. We hope to see you there!

**As you can see it has been a hectic spring that has given us a lot of confirmation about our product. We are now working eagerly and hard towards the US launch with Drylab 3.0, while keeping momentum in Europe with our existing system.**



[Drylab has kindly allowed this newsletter to be redone in HTML/CSS and converted to PDF with Prince. Navngen helped anonymize names in the process.]



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## ATTENTION TO

**Denny Gunawan**

221 Queen St  
Melbourne VIC 3000

**\$39.60**

Invoice Number: #20130304

Organic Items	Price/kg	Quantity(kg)	Subtotal
Apple	\$5.00	1	\$5.00
Orange	\$1.99	2	\$3.98
Watermelon	\$1.69	3	\$5.07
Mango	\$9.56	2	\$19.12
Peach	\$2.99	1	\$2.99

# THANK YOU

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**Subtotal** \$36.00

**GST (10%)** \$3.60

**Total** **\$39.60**

# Anatomy of the Somatosensory System

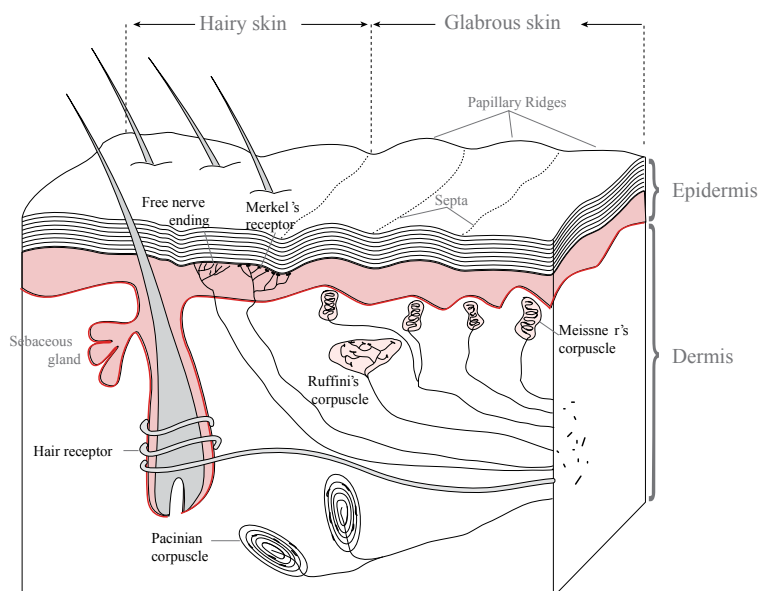
FROM WIKIBOOKS<sup>1</sup>

Our somatosensory system consists of sensors in the skin and sensors in our muscles, tendons, and joints. The receptors in the skin, the so called cutaneous receptors, tell us about temperature (*thermoreceptors*), pressure and surface texture (*mechano receptors*), and pain (*nociceptors*). The receptors in muscles and joints provide information about muscle length, muscle tension, and joint angles.

*This is a sample document to showcase page-based formatting. It contains a chapter from a Wikibook called Sensory Systems. None of the content has been changed in this article, but some content has been removed.*

## Cutaneous receptors

Sensory information from *Meissner corpuscles* and rapidly adapting afferents leads to adjustment of grip force when objects are lifted. These afferents respond with a brief burst of action potentials when objects move a small distance during the early stages of lifting. In response to

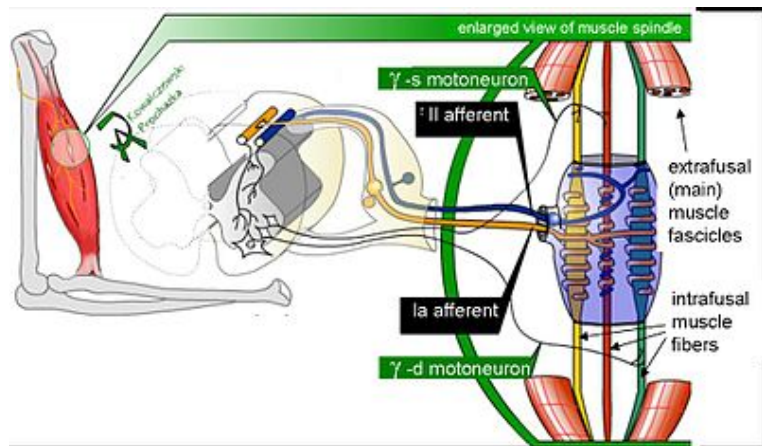


*Figure 1: Receptors in the human skin: Mechanoreceptors can be free receptors or encapsulated. Examples for free receptors are the hair receptors at the roots of hairs. Encapsulated receptors are the Pacinian corpuscles and the receptors in the glabrous (hairless) skin: Meissner corpuscles, Ruffini corpuscles and Merkel's disks.*

<sup>1</sup> The following description is based on lecture notes from Laszlo Zaborszky, from Rutgers University.



Figure 2: Mammalian muscle spindle showing typical position in a muscle (left), neuronal connections in spinal cord (middle) and expanded schematic (right). The spindle is a stretch receptor with its own motor supply consisting of several intrafusal muscle fibres. The sensory endings of a primary (group Ia) afferent and a secondary (group II) afferent coil around the non-contractile central portions of the intrafusal fibres.



rapidly adapting afferent activity, muscle force increases reflexively until the gripped object no longer moves. Such a rapid response to a tactile stimulus is a clear indication of the role played by somatosensory neurons in motor activity.

The slowly adapting *Merkel's receptors* are responsible for form and texture perception. As would be expected for receptors mediating form perception, Merkel's receptors are present at high density in the digits and around the mouth (50/mm<sup>2</sup> of skin surface), at lower density in other glabrous surfaces, and at very low density in hairy skin. This innervations density shrinks progressively with the passage of time so that by the age of 50, the density in human digits is reduced to 10/mm<sup>2</sup>. Unlike rapidly adapting axons, slowly adapting fibers respond not only to the initial indentation of skin, but also to sustained indentation up to several seconds in duration.

Activation of the rapidly adapting *Pacinian corpuscles* gives a feeling of vibration, while the slowly adapting *Ruffini corpuscles* respond to the lateral movement or stretching of skin.

## Nociceptors

Nociceptors have free nerve endings. Functionally, skin nociceptors are either high-threshold mechanoreceptors

	<b>Rapidly adapting</b>	<b>Slowly adapting</b>
Surface receptor / small receptive field	<i>Hair receptor, Meissner's corpuscle</i> : Detect an insect or a very fine vibration. Used for recognizing texture.	Merkel's receptor: Used for spatial details, e.g. a round surface edge or "an X" in brail.
Deep receptor / large receptive field	<i>Pacinian corpuscle</i> : "A diffuse vibration" e.g. tapping with a pencil.	<i>Ruffini's corpuscle</i> : "A skin stretch". Used for joint position in fingers.

Table 1

or *polymodal receptors*. Polymodal receptors respond not only to intense mechanical stimuli, but also to heat and to noxious chemicals. These receptors respond to minute punctures of the epithelium, with a response magnitude that depends on the degree of tissue deformation. They also respond to temperatures in the range of 40–60°C, and change their response rates as a linear function of warming (in contrast with the saturating responses displayed by non-noxious thermoreceptors at high temperatures).

Pain signals can be separated into individual components, corresponding to different types of nerve fibers used for transmitting these signals. The rapidly transmitted signal, which often has high spatial resolution, is called *first pain* or *cutaneous pricking pain*. It is well localized and easily tolerated. The much slower, highly affective component is called *second pain* or *burning pain*; it is poorly localized and poorly tolerated. The third or *deep pain*, arising from viscera, musculature and joints, is also poorly localized, can be chronic and is often associated with referred pain.

*Notice how figure captions and sidenotes are shown in the outside margin (on the left or right, depending on whether the page is left or right). Also, figures are floated to the top/bottom of the page. Wide content, like the table and Figure 3, intrude into the outside margins.*

## Muscle Spindles

Scattered throughout virtually every striated muscle in the body are long, thin, stretch receptors called muscle spindles. They are quite simple in principle, consisting of a few small muscle fibers with a capsule surrounding the middle third of the fibers. These fibers are called *intrafusal fibers*, in contrast to the ordinary *extrafusal fibers*. The ends of the intrafusal fibers are attached to extrafusal fibers, so whenever the muscle is stretched, the intrafusal fibers are also

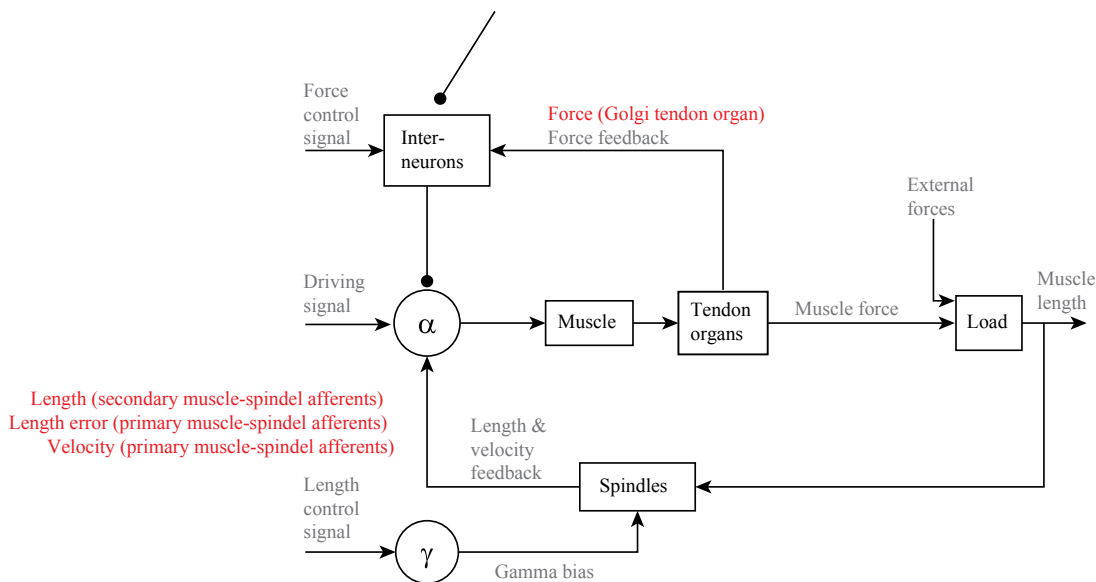


Figure 3: Feedback loops for proprioceptive signals for the perception and control of limb movements. Arrows indicate excitatory connections; filled circles inhibitory connections.

For more examples of how to use HTML and CSS for paper-based publishing, see [css4.pub](http://css4.pub).

stretched. The central region of each intrafusal fiber has few myofilaments and is non-contractile, but it does have one or more sensory endings applied to it. When the muscle is stretched, the central part of the intrafusal fiber is stretched and each sensory ending fires impulses.

Muscle spindles also receive a motor innervation. The large motor neurons that supply extrafusal muscle fibers are called *alpha motor neurons*, while the smaller ones supplying the contractile portions of intrafusal fibers are called *gamma neurons*. Gamma motor neurons can regulate the sensitivity of the muscle spindle so that this sensitivity can be maintained at any given muscle length.

## Joint receptors

The joint receptors are low-threshold mechanoreceptors and have been divided into four groups. They signal different characteristics of joint function (position, movements, direction and speed of movements). The free receptors or type 4 joint receptors are nociceptors.