

## ***Qualitative Analysis of Human Sebum in Sebaceous Glands in-situ Using FTIR Microspectroscopy***

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Common skin disorders such as acne, folliculitis, hair loss, seborrheic dermatitis, sebaceous gland hyperplasia or adenomas<sup>1</sup> as well as very common dry, itchy skin in elderly are linked to changes in quantity and quality of sebum production and alteration in sebaceous gland activity. Sebaceous glands are connected to the hair follicle and therefore their pathophysiology is closely related to the pilosebaceous unit. A few recent papers have discussed the characterization of different parts of hair cuticle, medulla and cortex by means of FTIR microspectroscopy<sup>2</sup>. However, evaluation of quality of sebaceous glands and sebum composition on different areas (body, scalp, vertex, occipital) and various hair types (villus, scalp hair and miniaturized hair) in healthy and patients is not currently very well understood. A high photon flux and brilliance of synchrotron radiation enable FTIR experiments with high spatial resolution giving more insights into the composition of sebum in-situ in sebaceous glands without contamination with surface lipids and comparing this composition in various skin disorders and body sites.

In the poster we will present some preliminary results obtained by a close collaborative effort and how this might affect the knowledge of sebum composition in normal sebaceous glands and compare in to sebum composition in hair loss and other hair disorders. These studies could also help to develop artificial sebum that is more natural and closer to human sebum and that can be used for disorders with too little sebum production, such as dry skin.

### References

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