



# Poster presentation

**Final workshop**  
**„Minimum standards on the prevention, diagnosis and treatment**  
**of OSD: the way forward“**  
**18 – 19 May 2017**



COST Action TD1206 „StanDerm“ Development and  
Implementation of European Standards on Prevention of  
Occupational Skin Diseases



COST is supported by  
the EU Framework Programme  
Horizon 2020

## Title

**Increased cooperation, research and activities to prevent work-related skin diseases in Norway**

## Author

Jose Hernán Alfonso

## Affiliation

Department of Occupational Medicine and Epidemiology, National Institute of Occupational Health, Oslo, Norway

## Keywords

Prevention, work-related skin diseases, Norway, networking, StanDerm

## Abstract

Work-related skin diseases (WRSD) represent a challenge for all workers (World Health Organization). Scarce research on the topic of WRSD has been performed in Norway before the inclusion of Norway in the COST Action TD1206 StanDerm.

StanDerm's networking activities facilitated cooperation with international institutions which led to increased research activities and prevention of WRSD in Norway.

Cooperation with the National Allergy Research Centre, Department of Dermato-Allergology, Gentofte Hospital, Denmark led to a population-based study, which identified occupational skin exposures contributing to the burden of skin problems and long-term sick leave in the general working population of Norway. Moreover, targets for prevention of cutaneous squamous cell carcinoma in four Nordic countries were identified.

Cooperation with the Academic Medical Center Amsterdam and the Faculty of Food Technology and Biotechnology, University of Zagreb, Croatia has led to a project focusing on skin exposure to oil and drilling products.

Cooperation with the Department of Dermatology, University Hospital Leuven, Belgium contributed to activities for prevention of WRSD in the Argentinean Society of Dermatology and the Ibero-American College of Dermatology.

Research within occupational dermatology has now been included in the research strategy of the National Institute of Occupational Health of Norway. In addition, prevention activities for risk groups are being arranged by workers' and employers' organizations.

The participation of Norway in StanDerm had a positive impact on research and prevention of work-related skin diseases in Norway.

## Title

**COST Action TD1206 (StanDerm) research activities: Croatian participation**

## Authors

Željka Babić<sup>1</sup>, Suzana Ljubojević Hadžavdić<sup>2</sup>, Ivone Jakasa<sup>3</sup>, Jelena Macan<sup>1</sup>

## Affiliations

<sup>1</sup>Institute for Medical Research and Occupational Health, Zagreb, Croatia

<sup>2</sup>Department of Dermatology and Venereology at University Hospital Center, Zagreb, Croatia

<sup>3</sup>Faculty of Food Technology and Biotechnology, University of Zagreb, Zagreb, Croatia

## Keywords

Research, collaboration, Croatia, occupational skin diseases

## Abstract

Several interesting lines of joint research activities with participation of Croatian scientists have been developed since 2013 within the COST Action TD1206 StanDerm.

Joint research activities were established between Croatia, Netherlands (Coronel Institute of Occupational Health, University Medical Center Amsterdam) and Germany (Department of Dermatology, Environmental Medicine and Health Theory at the University of Osnabrück).

The first research line was focused on genetic association studies, with filaggrin and TNF $\alpha$  polymorphisms found to have an effect on skin symptoms and atopic dermatitis. Filaggrin null mutations R501X and 2282del4 were confirmed to be independent risk factors for the development of skin symptoms, and TNF $\alpha$ -308G>A polymorphism was found to be an independent protective factor for atopic dermatitis.

The second line of research was focused on inflammatory mediators and skin morphology in tape stripped skin samples. It was found that increase of cytokine IL-16 levels seen in patch test reactions to all allergens, but not to irritative detergent SLS, may help to differentiate between allergic and irritant contact dermatitis, while found decrease of skin CCL17 and IL-8 over the course of local therapy in atopic dermatitis patients can be used to follow the treatment efficacy.

The third line was related to the research of skin health and safety at work in Croatian hairdressing and beautician apprentices. Clinically observed high prevalence of skin changes and noncompliance with skin protection measures at work warrants future collaborative preventive actions.

In conclusion, the collaborative research efforts have proven successful and will hopefully be continued and even strengthened with future joint projects applications.

## Title

### Occupational exposure to solar ultraviolet radiation: international projects and outcomes

## Authors

Alexandra Irina Butacu<sup>1</sup>, Swen Malte John<sup>2</sup>, Richard Brans<sup>3</sup>, Karel Ettler<sup>4</sup>, Marc Wittlich<sup>5</sup>, Claas Ulrich<sup>6</sup>, Giovanni Pellacani<sup>7</sup>, George Sorin Tiplica<sup>8</sup>, Carmen Maria Salavastru<sup>9</sup>

## Affiliations

<sup>1</sup>2nd Department of Dermatology, Colentina Clinical Hospital, Bucharest, Romania

<sup>2,3</sup>Department of Dermatology, Environmental Medicine and Health Theory, University of Osnabrück, Osnabrück, Germany

<sup>4</sup>Charles University, Prague, Czech Republic

<sup>5</sup>Institute for Occupational Safety and Health/IFA, St. Augustin, Germany

<sup>6</sup>Skin Cancer Centre/HTCC, Hautklinik der Charité, Berlin, Germany

<sup>7</sup>University of Modena and Reggio Emilia, Modena, Italy

<sup>8</sup>2nd Department of Dermatology, Colentina Clinical Hospital, Bucharest, Romania

<sup>9</sup>Pediatric Dermatology Department, Colentina Clinical Hospital, Bucharest, Romania; Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

## Keywords

UV, occupational exposure, skin cancer

## Abstract

**Introduction and objectives:** Exposure to ultraviolet (UV) radiation is a major causative factor in skin cancer pathogenesis and many outdoor workers are extensively exposed to solar UV radiation. Nevertheless, still, few European countries recognize UV-induced skin cancer as an occupational disease. Our aim was to obtain accurate, comprehensive UV measurements for outdoor workers and to raise awareness of this issue in order to improve management of subjects with occupational UV-induced skin cancer.

**Material and methods:** Within the working group 3 (WG 3) of the COST Action TD1206 StanDerm, a prospective, observational, analytical study was initiated to measure exposure to UV radiation in Romanian outdoor workers (construction industry and agriculture) over a period of three summer months (July, August, September of 2015). In addition, for gaining better insight into UV measurements, a Short Term Scientific Mission (STSM) in collaboration with Modena, Italy, was performed.

**Results:** The daily UV radiation doses measured in Romanian outdoor workers ranged from 1.79 to 19 Standard Erythema Dose (SED), reinforcing the indispensable objective of implementing effective preventive measures. Due to the results obtained, showing a high exposure to UV radiation, members of WG 3 elaborated an "UV leaflet" which was destined to raise awareness of occupational UV-related skin cancer and to improve prevention methods of outdoor workers.

**Conclusion:** Other joint European projects are needed for validating the necessity of recognizing UV skin cancer as an occupational disease in all European countries and for implementing effective and standardised prevention measures.

## Title

**The effect of dermal exposure to environmental stressors on skin barrier and immune response**

## Authors

Sanja Kezic<sup>1</sup>, Richard Brans<sup>2</sup>, Kristiane Aasen Engebretsen<sup>3</sup>, Ivone Jakasa<sup>4</sup>, Sjors A. Koppes<sup>1</sup>, Maryam Soltanipoor<sup>1</sup>, Stine Simonsen<sup>3</sup>, Tasja Romina Stilla<sup>5</sup>, Branka Marinovic<sup>6</sup>, Suzana Ljubojević Hadžavdić<sup>6</sup>, Ruzica Jurakic-Toncic<sup>6</sup>, Christoph Riethmüller<sup>7</sup>, Thomas Rustemeyer<sup>8</sup>, Irena Angelova-Fischer<sup>5</sup>, Jacob P. Thyssen<sup>3</sup>

## Affiliations

<sup>1</sup>Coronel Institute of Occupational Health, AMC, University of Amsterdam, Amsterdam, Netherlands

<sup>2</sup>Department of Dermatology, Environmental Medicine and Health Theory, University of Osnabrück, Osnabrück, Germany

<sup>3</sup>National Allergy Research Centre, Department of Dermato-Allergology, Copenhagen University Hospital Gentofte, Hellerup, Denmark

<sup>4</sup>Faculty of Food Technology and Biotechnology, University of Zagreb, Zagreb, Croatia

<sup>5</sup>Department of Dermatology, University of Lübeck, Lübeck, Germany

<sup>6</sup>Department of Dermatology and Venereology, University Hospital Center, Zagreb, Croatia

<sup>7</sup>Serend-ip GmbH, Centre for Nanotechnology, Münster, Germany

<sup>8</sup>Department of Dermatology, VU University Medical Centre, Amsterdam, Netherlands

## Keywords

Skin barrier, immune response, environmental stressors

## Abstract

**Background:** Dermal exposure to environmental stressors may lead to damage of the skin barrier and development of occupational skin diseases.

**Objectives:** To get more insight into the mechanisms underlying skin barrier impairment and immune response due to exposure to skin stressors relevant for occupational settings.

**Methods:** The effect of skin irritants, contact allergens and UV radiation has been investigated by measuring a broad range of biochemical, morphological and functional parameters.

**Results:** Several candidate biomarkers have been identified for the assessment of the skin barrier damage and immune response

**Conclusion:** To assess adverse effects of occupational skin stressors, a multiparametric approach is needed allowing assessment of the skin barrier as well of immune response. These biomarkers can be sampled noninvasively, enabling their use in clinical evaluations e.g. to detect early effects or to monitoring therapy.

## Title

**StanDerm dissemination activities in Croatia (2013-2017)**

## Authors

Jelena Macan, Željka Babić, Marija Kujundžić Brkulj

## Affiliation

Institute for Medical Research and Occupational Health, Zagreb, Croatia

## Keywords

Dissemination activities, Croatia, prevention of occupational skin diseases, stakeholders

## Abstract

Since 2013, StanDerm participants from the Institute for Medical Research and Occupational Health (IMROH), Zagreb, Croatia, have been continuously working on dissemination of StanDerm aims, ideas and results in Croatia. Promotion of occupational skin diseases (OSD) prevention was focused on the personal service sector (hairdressers, beauticians) involving apprentices, teachers, working hairdressers/beauticians, trade union for personal services, Ministries of science, education and labor, National institutes for promotion of health and safety at work, occupational health and school medicine specialists as stakeholders. Dissemination activities were strongly supported with two scientific projects performed in IMROH in 2015/2016 with the aim to evaluate safety at work measures, the prevalence and severity of skin symptoms and their impact on quality of life among Croatian hairdressing and beautician apprentices from 6 vocational schools in Croatia.

Based on the results of these projects and other StanDerm achievements, dissemination activities were in the form of lectures, reports of projects' results, translation of materials for promotion of OSD prevention from other StanDerm partners, publications in Croatian journals, publication of national guideline for the management of OSD in occupational medicine as a separate edition, participation in relevant governmental working groups providing rules and guidelines in the field of health and safety at work.

Further cooperation with the Croatian agency for vocational education and training and adult training is now in focus, starting from the beginning of education, and spreading OSD prevention to other occupations. New proposal for national scientific project aiming at improvements of OSD management are in evaluation process.

## Title

**The development of a protocol for diagnosing hand dermatitis from photographic images among at risk nurses**

## Authors

Vaughan Parsons<sup>1</sup> Hywel Williams<sup>2</sup>, John English<sup>3</sup>, Joanne Llewellyn<sup>4</sup>, Georgia Ntani<sup>5</sup>, Ira Madan<sup>6</sup>

## Affiliations

<sup>1</sup>Clinical Trials Unit, King's College London & Guy's and St Thomas NHS Foundation Trust, UK

<sup>2</sup>Centre of Evidenced Based Dermatology, University of Nottingham, UK

<sup>3</sup>Department of Dermatology, Nottingham University Hospitals NHS Foundation Trust, UK

<sup>4</sup>Centre of Evidenced Based Dermatology, University of Nottingham, UK

<sup>5</sup>MRC Lifecourse Epidemiology Unit, University of Southampton, UK

<sup>6</sup>Occupational Health Service, Guy's and St Thomas NHS Foundation Trust & King's College London, UK

## Keywords

Photographs, dermatitis, nurses, clinical trial

## Abstract

**Background:** A hand photography protocol was needed to support the implementation of a multi-centre randomised controlled trial (RCT) examining hand dermatitis prevention interventions among at-risk nurses.

**Methods:** There were three stages to the development of the hand photography protocol: (i) development of a standardised procedure for collecting hand photographs; (ii) a two-stage validation process to establish agreed "consensus" rules for diagnosing and determining severity hand dermatitis and; (iii) training of a nurse to screen out 'clear' cases.

**Results:** We successfully developed a procedure and trained local field workers in the procedure for collecting standardised hand photographs. The study dermatologists were able to establish agreed rules to follow to reliably diagnose and determine severity of hand dermatitis from hand photographs and we found that it was feasible to train a dermatology research nurse to reliably screen out 'clear' cases.

**Conclusion:** We developed a standardised and reliable hand photography protocol to support the implementation of a multi-centre dermatitis prevention study.

## Title

### Prevention of hand eczema among nurse students in Romania

## Authors

Ionela Manole<sup>1</sup>, George Sorin Tiplica<sup>2</sup>, Sanja Kezic<sup>3</sup>, Carmen Maria Salavastru<sup>4</sup>

## Affiliations

<sup>1</sup>Dermatology Research Unit, Colentina Clinical Hospital, Bucharest, Romania

<sup>2</sup>2nd Department of Dermatology, Colentina Clinical Hospital, Bucharest, Romania; Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Coronel Institute of Occupational Health, AMC, University of Amsterdam, Amsterdam, Netherlands

<sup>4</sup>Dermato-Oncology Research Unit, Colentina Clinical Hospital, Bucharest, Romania; Pediatric Dermatology Department, Colentina Clinical Hospital, Bucharest, Romania; Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

## Abstract

**Background:** Nurses are at high risk for developing occupational hand eczema, mainly due to frequent exposure to irritants and hands washing. At this moment, in Romania there are no guidelines on the prevention of occupational hand eczema.

**Material and method:** In order to prepare an interventional study regarding prevention of hand eczema among nurse students, the Romanian team visited the Coronel Institute of Occupational Health, Amsterdam, Netherlands. Sanja Kezic and her team (Sjors Koppes and Maryam Soltanipoor) shared their experience in terms of proper development of an interventional study and presented practical issues regarding proper skin measurements needed for our pathology of interest.

**Results:** The experience acquired in Amsterdam was the basis for the development of an interventional, multicenter, prospective, controlled study in adult subjects and students of Health Services Schools in clinical training internship. Data regarding wet work exposure, symptoms of hand eczema, hand lotion usage were collected from 230 nurse students, divided in two study groups: the intervention and the control group. The evaluation of skin properties was made using questionnaires, HECSI score, measurement of transepidermal water loss (TEWL) and epidermal hydration (CM). Results were relevant, e.g. increase of 16% in CM and decrease of 12% in TEWL in the study group.

**Conclusion:** The collaboration with the Coronel Institute of Occupational Health team gave us the support we needed in order to initiate actions of information, prevention and management of occupational contact dermatitis in healthcare workers.

## Title

### Confocal microscopy evaluation of cutaneous tumors developed after occupational exposure

## Authors

Laura Elena Nedelcu<sup>2</sup>, Anca Mihaela Stanciu<sup>1</sup>, Stefana Cretu<sup>1</sup>, Mino Schuch-Ghannadan<sup>3</sup>, Barbara Lengauer<sup>3</sup>, Heinz Fischer<sup>3</sup>, Erwin Tschachler<sup>3</sup>, George Sorin Tiplica<sup>1,2</sup>

## Affiliations

<sup>1</sup>2nd Department of Dermatology, Colentina Clinical Hospital, Bucharest, Romania

<sup>2</sup>Carol Davila University of Medicine and Pharmacy, Bucharest; Dermatology Department, Colentina Hospital, Bucharest, Romania

<sup>3</sup>Research Division of Biology and Pathobiology of the Skin, Department of Dermatology, University of Vienna Medical School, Vienna, Austria

## Keywords

Confocal microscopy, occupation skin cancers, BCC, SCC, STSM

## Abstract

**Introduction:** Skin cancer developed after occupational exposure is more frequent than recognised. Early detection of subclinical changes at a cellular level and early treatment might help prevent the development of malignant lesions. Confocal microscopy analyses the histology of the skin. In vitro, it is able to reveal 3D images of specific cells within harvested tissues and after immunostaining. Visualising the stained cells and their relationships to each other in a 3D mode can lead to a better understanding of events that take place at cellular level when cutaneous malignancy develops. Biopsy samples of basal cell carcinomas and squamous cell carcinomas from Romanian patients treated in the 2<sup>nd</sup> Department of Dermatology at Colentina Clinical Hospital in Bucharest, Romania, were analysed in the Research Division of Biology and Pathobiology of the Skin, part of the Department of Dermatology of the University of Vienna Medical School in Vienna, Austria. Confocal laser scanning performed 3D models of the analysed specimens.

**Case presentations:** We present the cases of two males with cutaneous neoplasia developed after chronic occupational sun exposure. N.A. (64 years old) with multiple cefalic nodular BCCs and I.N. (68 years old) with SCC of the cheek. Biopsy of the nodular BCC and SCC was performed for both patients at the Colentina Clinical Hospital in Bucharest and analysis of the paraffin blocks was performed at the Research Division of Biology and Pathobiology of the Skin of the University of Vienna Medical School in Vienna.

The steps of the analysis were:

- cutting paraffin blocks (thin sections of 5µm for immunofluorescence analysis and thick sections of 30 µm for confocal laser scanning analysis)
- immunofluorescence staining for keratins (keratin 2 and keratin 10) and endothelial markers: heating and deparaffinization of samples, demasking of antigens, sequential incubations and washing of samples and controls for adequate staining with antibodies (double immunofluorescence staining – same sample stained with two antibodies)
- validation of staining at the conventional 3 channel immunofluorescence microscope (photo documentation)
- 3D analysis of the immunostained specimens with the confocal laser microscope with various analysis patterns. 3D images of the samples were built with visualisation of keratins and vessels in the analysed tumours in conjunction with surrounding cells.

The data gives new insights in the analysis of cutaneous malignancy which can be performed for occupational cutaneous malignancy. This collaboration was fostered through a STSM grant.

## Title

### Understanding the effects of skin irritants on the skin barrier

## Authors

Maryam Soltanipoor<sup>1,5</sup>, Tasja Stilla<sup>2</sup>, Christoph Riethmüller<sup>3</sup>, Jacob P. Thyssen<sup>4</sup>, Thomas Rustemeyer<sup>5</sup>, Sanja Kezic<sup>1</sup>, Irena Angelova-Fischer<sup>2</sup>

## Affiliations

<sup>1</sup>Coronel Institute of Occupational Health, AMC, University of Amsterdam, Amsterdam, Netherlands

<sup>2</sup>Department of Dermatology, University of Lübeck, Lübeck, Germany

<sup>3</sup>Centre for Nanotechnology, Serend-ip GmbH, Münster, Germany

<sup>4</sup>National Allergy Research Centre, Department of Dermato-Allergology, Copenhagen University Hospital Gentofte, University of Copenhagen, Hellerup, Denmark

<sup>5</sup>Department of Dermatology, VU University Medical Centre, Amsterdam, Netherlands

## Abstract

**Background:** Irritant contact dermatitis (ICD) is a common inflammatory skin disease resulting from single or cumulative exposure to physical or chemical irritants. Skin irritation occurs due to damage of the skin barrier leading to decrease in skin hydration and inflammation. Recently, by using Atomic Force Microscopy (AFM), it has been demonstrated that a model skin irritant sodium lauryl sulphate (SLS) increases the number of circular nano-objects on the corneocyte surface, expressed as Dermal Texture Index (DTI-scoring). Furthermore, SLS caused reduction of the levels of natural moisturizing factors (NMF) and IL-1 cytokines in the stratum corneum (SC).

**Objectives:** To investigate the effect of various skin irritants on the SC levels of NMF, IL-1 cytokines and the corneocyte surface topography, with respect to the clinical response.

**Methods:** Eight healthy volunteers were repeatedly exposed to n-propanol (60% aq.), SLS (0.5% aq), sodium hydroxide (0.15% aq), acetic acid (2,0%) and occlusion for 30 minutes during four consecutive days. The irritant response was assessed by measuring erythema, transepidermal water loss (TEWL), skin capacitance, DTI and SC levels of IL-1 cytokines and NMF. The SC tape strips were collected from the exposed sites and a control skin site (non-exposed) at 24 and 96 hours after the beginning of exposure.

**Results:** The skin barrier impairment and inflammatory response showed to be irritant-specific.

**Conclusion:** To assess the irritative effects of various irritants, different biomarkers of skin barrier damage and immune response should be measured.

## Title

### Patch testing with rubber series in Europe: a critical review and recommendation

## Authors

Katharine L. Warburton<sup>1</sup>, Wolfgang Uter<sup>2</sup>, Johannes Geier<sup>3</sup>, Radoslaw Spiewak<sup>4</sup>, Vera Mahler<sup>5</sup>, Marie-Noelle Crepy<sup>6</sup>, Marie-Louise Schuttelaar<sup>7</sup>, Andrea Bauer<sup>8</sup>, Mark Wilkinson<sup>1</sup>

## Affiliations

<sup>1</sup>Department of Dermatology, Chapel Allerton Hospital, Leeds, UK

<sup>2</sup>University of Erlangen, Department of Medical Informatics, Biometry and Epidemiology, Erlangen, Germany

<sup>3</sup>Information Network of Departments of Dermatology (IVDK), Institute at the University Medical Center, Göttingen, Germany

<sup>4</sup>Department of Experimental Dermatology and Cosmetology, Jagiellonian University Medical College, Krakow, Poland

<sup>5</sup>University Clinic Erlangen, Erlangen, Germany

<sup>6</sup>Paris University Hospital, Centre Hôtel-Dieu, Department of Occupational Diseases, Paris, France

<sup>7</sup>University Medical Centre Groningen, University of Groningen, Netherlands

<sup>8</sup>Department of Dermatology, University Allergy Centre, University Hospital Carl Gustav Carus, Technical University Dresden, Germany

## Keywords

Patch testing, European rubber series

## Abstract

**Objectives:** To collect information regarding the current practice of using a ‘rubber series’ in Europe, and discuss this against the background of evidence concerning exposure, to derive a recommendation for a ‘European rubber series’ for skin testing.

**Methods:** (i) a survey targeting all members of the COST action ‘StanDerm’ consortium; (ii) analysis of rubber contact data in the database of the European Surveillance System on Contact Allergies (ESSCA) published as: Patch test results with rubber series in the European Surveillance System on Contact Allergies (ESSCA), 2013/14. Uter W, Warburton K, Weisshaar E, Simon D, Ballmer-Weber B, Mahler V, Fuchs T, Geier J, Wilkinson M., *Contact Dermatitis* 2016; 75, 345-352; (iii) literature review.

**Results:** Information from 13 countries was available, from one or several departments of dermatology, and occasionally occupational health. Apart from some substances tested only in single departments, a broad overlap regarding important allergens was evident, but significant variation existed between departments.

**Conclusion:** An up to date ‘European rubber series’ is recommended, with exclusion of substances only of historical concern. A ‘supplementary rubber series’ containing allergens of less proven importance, requiring further analysis, is recommended for departments specialising in occupational or contact allergy. These should be continually updated as new evidence emerges.

## Title

**GENESIS-UV: UV exposure of workers in Europe**

## Authors

Marc Wittlich, Benjamin Strehl

## Affiliation

Referat Strahlung, Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung, Sankt Augustin, Germany

## Keywords

UV exposure, dosimetry

## Abstract

We are exposed to solar ultraviolet radiation (UVR) every day, during work and leisure time. To date, there is only little knowledge about the level of irradiance – especially during occupational activities.

For risk assessment and deduction of protective measures, real measured data serve best. Regarding solar UVR exposure, long-term personal dosimetry measurements is required. With GENESIS-UV, we designed a suitable system. With only little impairment, each test person measures autonomously. Data are transferred via mobile service or internet to a data server once a week automatically. GENESIS-UV has proven to be feasible in collaborations in the whole world without any changes in the system.

Since 2014, about 800 test persons delivered data points representing about 80000 days of measurement – in Germany. We derived the annual irradiance for more than 100 occupations, and far more occupational activities as well. Interestingly, the irradiance values for the occupations cover a very wide range ([www.dguv.de/genesis](http://www.dguv.de/genesis)). Going deeper into the occupational activities, prevention-relevant information could be obtained.

In Europe, several pilot measurements have been conducted. In April 2017, a joint measurement campaign in Denmark, Croatia, Italy, and two regions in Romania, all StanDerm members, started in order to obtain exposure values with comparable conditions: identical technique with GENESIS-UV, identical activities (masons), and identical measurement term (April to October). First results will be available soon.

Outdoor workers have to be protected from UVR exposure. During working hours, their exposure can be up to 4.5 times the leisure dose. Our approach from occupations to occupational activities enables us to suggest very distinct protective measurement, and drawing a full picture of outdoor workers exposure. Particularly, we showed that already short exposure times may lead to a notable hazard, and that the definition of an outdoor worker has to be reviewed.