



Packaging Logistics – Research

LUND UNIVERSITY | PACKAGING LOGISTICS





Welcome to Packaging Logistics

ANNIKA OLSSON – PROFESSOR AND DIVISION HEAD

–The Packaging Logistics research team at the Department of Design Sciences works with packaging and logistics and how they mutually influence and relate to one another. It's about everything from packaging design, supply chain management, logistics and sustainable development to commerce, simulation and product development. The research and teaching takes place in collaboration with industry and we deal with questions and issues that arise around packaging and logistics in our society, Annika Olsson explains.

Annika Olsson has been professor and head of Packaging Logistics since 2011. She joined the Division as a doctoral student in 2000 after having worked with packaging and food processing for fifteen years at Alfa Laval and Tetra Pak in Sweden. She studied at the Lund University's Faculty of Engineering (LTH) where she received an MSc in Food Engineering. She also has an international MBA from the US.

Packaging logistics is a research subject developed at LTH that has established itself in the international scientific community, where it is recognized as an active contributor. What are the plans for the future?

–We will continue to carry out research that is significant for various societal stakeholders and that will lead to positive developments. An example is in sustainable development, where you can have a big impact with the right packaging design and well-thought out logistics.

The fundamental idea of packaging logistics is that the interaction between packaging and logistics knowledge can have major effects on society, both economically and environmentally. This idea is the basis of the research carried out. But that is not the only reason the research is successful.

–We have built up a subject area that has been internationally acknowledged because we work interdisciplinarily, and because we recruit people with a variety of competencies, skills, experiences and background. It feels very positive!

–It's also fun that the students like our programmes and readily apply to our courses, which are based on the latest research findings. This means that they are always up-to-date.

Jessika Sellergren



Research approach

Packaging logistics research takes place in the interlinked areas of packaging, logistics and sustainable development. It integrates these areas into product, process and service innovations.

Several theoretical fields of knowledge are integrated to accomplish effective and sustainable utilization of resources throughout supply chains.

We provide opportunities to develop knowledge and competence together in an applied and multidisciplinary environment. Our research is most often carried out in close collaboration with related industries or public organizations.

The Division of Packaging Logistics has proven its excellence in the field and our research contributes to areas such as:

- Supply chain management
- Packaging technology and innovation
- Sustainable development
- Freight transports
- Retail logistics
- Supply chain traceability

I FEEL INSPIRED TO DO MY BEST!

–I am lucky to be here, says Giana Lorenzini. The people are open, supervision is good and it's a nice environment. I feel inspired to do my best! Giana is a PhD student at Packaging Logistics. She comes from Porto Alegre in Brazil, and has a scholarship from *Science Without Borders*, the ambitious Brazilian mobility programme launched in 2011. –Many students in Brazil are interested in going abroad, but you can only be accepted if you have the right competence and a good project. Now that I am finally here in Lund, I am happy my professors back home supported my idea to apply.

Giana's research is about pharmaceutical packaging design and how it can be adapted to elderly users. –There is a lack of research in this area. When you see elderly people who cannot open the packages with medicine they have been prescribed, you realize there are a lot of things to improve. But if you change the packaging design so it is easier to open, it should at the same time be safe for children. The question is how companies can adapt to this by considering new materials or improved manufacturing processes. So in my research I try to take into account both the user needs and the design work within the companies.

So why did Giana end up in Lund and Sweden? It is perhaps not the first choice of Brazilian students who want to study in Europe. –The competence was here. I had never before seen such a focused group. But there are also cultural aspects: I'm comfortable adapting myself to Sweden. There are some small challenges in daily life, but I am happy here!

Erik Andersson



Research Programmes and Collaborative Networks

Research at Packaging Logistics is often carried out in cross-disciplinary networks with researchers from other faculties and universities. These networks also have close collaboration with related industries or public organizations.

Packaging Logistics is involved in two major cross-disciplinary research platforms: *ReLog* and *Excellence Centre in Retail Research*.

ReLog is a collaboration between Lund University, the City of Helsingborg and Vinnova. It aims to strengthen and develop cross-disciplinary and need based research. The goal is to increase competence, create employability and generate innovation and thereby growth in the region. Together with the City of Helsingborg and the industrial partner, we collaborate to determine the research content.

The *Excellence Centre in Retail Research* was established 2014 at Lund University by Handelns Utvecklingsråd (Swedish Retail and Wholesale Development Council). This Centre is a collaboration between the Business School, Campus Helsingborg and Packaging Logistics at LTH, all part of Lund University. The Excellence Centre is multidisciplinary with a research focus on two areas: meeting the needs of knowledgeable consumers,

and supplying goods to the retail chain. These two areas are essential for well-functioning and efficient retail.

Packaging Logistics is also engaged in *Tvärlivs*, a national research programme funded by VINNOVA (Sweden's Innovation Agency), Formas (Swedish Research Council), Svensk Dagligvaruhandel (Swedish Grocer's Branch Organization), Livsmedelsföretagen (Swedish Food Federation) and Stiftelsen Lantbruksforskning (Swedish Farmers' Foundation for Agricultural Research). Packaging Logistics is running a project in *Tvärlivs* 2013 on biosensors for the dynamic shelf life of food.

Packaging logistics contributes to a sustainable society by integrating packaging and product development, logistics and supply chain management in technical, economic and environmental life cycle perspectives for new sustainable product, process and service innovations.

We are unique because of our emphasis on a holistic packaging approach. We are recognized as one of the world's leading research and teaching groups in the integral field of packaging and logistics. A national and international inventory of academic research directed specifically towards packaging logistics revealed only one source, namely, Packaging Logistics, Design Sciences, at Lund University's Faculty of Engineering LTH.



Together we have a better chance

–My experience of working with Packaging Logistics has been very stimulating and rewarding. The Division has considerable expertise in areas that are extremely important for the business community. There is also a strong ambition to pursue development in cooperation with industry, says Per-Stefan Gersbro, Managing Director of Packbridge.

Packbridge is an international packaging and logistics cluster formed in 2010. It is a network for the packaging industry and all its key stakeholders. Packbridge's intention is to create a platform that naturally links industry with academia, research and commercial application.

–Packbridge's role is to contribute to generating a better understanding of the big picture, to bring people together to meet and see new possibilities. Things start to happen when people with different backgrounds and competencies come together. It plants the seeds of ideas that can take root and ultimately result in new innovations, is how Per-Stefan describes it.

A well-functioning collaboration between industry and the scientific community improves the changes that research will lead to commercial applications. For Packbridge it is important to have this kind of proximity between research and application.



–Good research is at the forefront, ahead of the industrial applications. The map is drawn in research, a map that industry goes on to enrich with its applications.

Packbridge is currently working on a strategic research agenda with Packaging Logistics. Per-Stefan Gersbro believes that Packaging Logistics has precisely the competence and skills needed to generate a research agenda to secure global supply chains by means of innovative packaging design.

Packaging Logistics is an obvious partner as we work to identify research and innovation areas that the Swedish packaging industry and its customers consider to be important to strengthen competitiveness and create growth. The societal challenges we face cannot be met with yesterday's solutions. Together, we are better able to meet and find solutions rather than trying to go it alone! We have a better chance working together.

Jessika Sellergren





The origins of Packaging Logistics

Gunilla Jönsson realized early on that a package is the link between a product and its distribution. This was an insight she wanted to develop and was one of the co-founders who did so by taking part in establishing packaging logistics as a university research subject in 1994.

–Packaging Logistics emerged from my original mission, which was to teach packaging to product design engineering students specializing in logistics. Previous experience had taught me that it was important to put the package in its context, and so it was natural to combine knowledge and insights on packaging, distribution and logistics, Gunilla Jönsson explains.

She relates that as a professor there are lots of opportunities if you have a base to stand on. Packaging was hers, and she added logistics because she understood that exciting developments would take place where the two intersected.

–The design of a package is of relatively little interest if knowledge is lacking about the setting in which it will be used, she states.

For Gunilla Jönsson, packaging logistics is a part of the system that affects the distribution of resources. And distribution requires knowledge of packaging and logistics.

–My international work has shown me that without the proper distribution of food, medicine and school books, we are unable to offer people opportunities.

Gunilla Jönson has been active in the field of packaging logistics for twenty years. During that time she has met many students and researchers and has lots of memories to share.

–Happy moments are when students have come and thanked me for the time they spent at the Division or when things have gone well for a student or graduate and they have found their place in life. I'm also pleased that there are so many young people who continue to develop and improve the Division, positive people who are excited and who cooperate well. I have had the privilege of following the Division on its path to new initiatives and the door is always open whenever I stop by.

Jessika Sellergren

GUNILLA JÖNSON - PROFESSOR

Gunilla Jönson has an MSc in Mechanical Engineering and a PhD in Packaging and Logistics. She started working as a test engineer and project manager. During one of her projects she was asked by the Forest Industry if she wanted to get her doctorate. Gunilla Jönsson became an industrial PhD candidate specializing in packaging and distribution issues. She received a scholarship to study in the US and later on became an assistant professor at Michigan State University.

Four years later Gunilla Jönson returned to Sweden to manage packaging research and development issues at SCA Packaging. She became an adjunct professor and participated in a multitude of projects across Europe as the company expanded. She worked on packaging with UN organizations in different parts of the world. When Gunilla Jönsson was appointed professor at the Faculty of Engineering and the Division of Packaging Logistics was formed, she had a very clear idea of what was required in this research area.

Contact us!

Annika Olsson, Professor, Head of Packaging Logistics
annika.olsson@plog.lth.se
+46 46 222 97 34

