

## **Patrik Eklund CV**

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## **Employment**

### **Professor**

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Åbo Akademi University

1 May 2023 → 31 Jul 2026

### **Solutions for Health**

Åbo Akademi University

1 Jan 2016 → present

### **Technologies for a Sustainable Future**

Åbo Akademi University

1 Jan 2016 → present

## **Publications**

### **Insights Into Molecular Interactions and Biological Effect of Natural Stilbenoids at The TRPA1 Ion Channel**

Saadabadi, A., Rantanen, M., Marimuthu, P., Koivisto, A.-P., Eklund, P. C. & Salo-Ahen, O. M. H., 1 Feb 2025, In: ChemMedChem. 20, 3, e202400501.

### **Isolation of stilbenoids from fresh knotwood of Scots pine using a high yield method**

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### **Evolution of Self-Assembled Lignin Nanostructure into Dendritic Fiber in Aqueous Biphasic Photocurable Resin for DLP-Printing**

Wang, L., Wu, R., Wang, Q., Backman, O., Eklund, P. C., Wang, X. & Xu, C., 21 Mar 2024, In: Advanced Functional Materials. 34, 29, 2315679.

### **Investigating the Effectiveness of Different Porous Nanoparticles as Drug Carriers for Retaining the Photostability of Pinosylin Derivative**

Howaili, F., Saadabadi, A., Mäkilä, E., Korotkova, E., Eklund, P. C., Salo-Ahen, O. M. H. & Rosenholm, J. M., 15 Feb 2024, In: Pharmaceutics. 16, 2, 17 p., 276.

### **Stilbenoid compounds inhibit NF- $\kappa$ B-mediated inflammatory responses in the Drosophila intestine**

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### **Template-Directed Polymerization of Binary Acrylate Monomers on Surface-Activated Lignin Nanoparticles in Toughening of Bio-Latex Films**

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Martins, P., Casale, T., Cecchi, L., Chivato, T., Chu, D. K., Cingi, C., Costa, E. M., Cruz, A. A., Del Giacco, S., Devillier, P., Eklund, P., Fokkens, W. J., Gemicioglu, B., Haahtela, T., Ivancevich, J. C., Ispayeva, Z., Jutel, M., Kuna, P., Kaidashev, I., Khaitov, M., Kraxner, H., Laune, D., Lipworth, B., Louis, R., Makris, M., Monti, R., Morais-Almeida, M., Mösges, R., Niedoszytko, M., Papadopoulos, N. G., Patella, V., Pham-Thi, N., Regateiro, F. S., Reitsma, S., Rouadi, P. W., Samolinski, B., Sheikh, A., Sova, M., Todo-Bom, A., Taborda-Barata, L., Toppila-Salmi, S., Sastre, J., Tsiligianni, I., Valiulis, A., Vandenplas, O., Wallace, D., Wasserman, S., Yorgancioglu, A., Zidarn, M., Zuberbier, T., Fonseca, J. A. & Bousquet, J., Apr 2023, In: *Allergy*. 78, 4, p. 968-983 16 p.

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Runeberg, P., Ryabukhin, D., Lagerquist, L., Rahkila, J. & Eklund, P., 15 Mar 2023, In: *Food Chemistry*. 404, part B, 134641.

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#### **O<sub>2</sub> as initiator of autocatalytic degradation of hemicelluloses and monosaccharides in hydrothermal treatment of spruce**

Rissanen, J. V., Lagerquist, L., Eränen, K., Hemming, J., Eklund, P. & Grénman, H., 1 Oct 2022, In: *Carbohydrate Polymers*. 293, 119740.

#### **Intensification of Hydrothermal Biomass Fractionation with the Help of Oxygen: Kinetics and Modeling**

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Lagerquist, L., Rahkila, J. & Eklund, P., 2021, In: *Holzforschung*.

#### **Fate of antioxidative compounds within bark during storage: A case of Norway spruce logs**

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#### **Chemical characterisation of polymerised extractives in bleached birch kraft pulp**

Smeds, A., Vähäsalo, L., Rahkila, J., Eklund, P. C. & Willför, S., 2019, In: Holzforschung. 73, 11, p. 1017–1033 17 p.

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**Abatement of amoxicillin and doxycycline in binary and ternary aqueous solutions by gas-phase pulsed corona discharge oxidation**

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**Characterization of high-molar-mass fractions in a Scots pine (*Pinus sylvestris* L.) knotwood ethanol extract**

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**Structural characterization of birch lignin isolated from a pressurized hot water extraction and mild alkali pulped biorefinery process**

Lagerquist, L., Pranovich, A., Smeds, A., von Schoultz, S., Vähäsalo, L., Rahkila, J., Kilpeläinen, I., Tamminen, T., Willför, S. & Eklund, P. C., 2018, In: *Industrial Crops and Products*. 111, p. 306–316 11 p.

**Compounds for use for treatment of HPV-induced carcinoma**

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**Chemical characterization of high-molar-mass fractions in a Norway spruce knotwood ethanol extract**

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Brusentsev, Y. & Eklund, P. C., 2016, In: *Synlett*. 27, 18, p. 2557–2560

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**Composite films of nanofibrillated cellulose and O-acetyl galactoglucomannan (GGM) coated with succinic esters of GGM showing potential as barrier material in food packaging**

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#### **Cationised O-acetyl galactoglucomannans: synthesis and characterisation**

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#### **Corrigendum to "The antimicrobial effects of wood-associated polyphenols on food pathogens and spoilage organisms." [Int. J. Food Microbiol. 164 (2013) 99-107]**

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#### **Synthesis and structural analysis of sterically hindered chiral 1,4-diol ligands derived from the lignan hydroxymatairesinol**

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#### **The antimicrobial effects of wood-associated polyphenols on food pathogens and spoilage organisms.**

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#### **"The antimicrobial effects of wood-associated polyphenols on food pathogens and spoilage organisms." [Int. J. Food Microbiol. 164 (2013) 99-107]**

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**Chemical characterization of polymerized products formed in the reactions of matairesinol and pinoresinol with the stable radical 2,2-diphenyl-1-picrylhydrazyl**

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**Isomerism of [Cu-64-NOTA-Bn]-Labeled Radiotracers: Separation of Two Complex Isomers and Determination of Their Interconversion Energy Barrier Using Ion Pair Chromatography**

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#### **A new lariciresinol-type butyrolactone lignan derived from hydroxymatairesinol and its identification in spruce wood**

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#### **The molecular structure and some properties of hydroxymatairesinol. An ab initio study**

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#### **Antioxidant Activity of Knotwood Extractives and Phenolic Compounds of Selected Tree Species**

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### **Knots in trees - a new rich source of lignans**

Holmbom, B., Eckerman, C., Eklund, P. C., Hemming, J., Nisula, L., Reunanen, M., Sjöholm, R., Sundberg, A., Sundberg, K. & Willför, S., 2003, In: *Phytochemistry Reviews*. 2, 3, p. 331–340

### **Synthesis of (-)-Matairesinol, (-)-Enterolactone, and (-)-Enterodiol from the Natural Lignan Hydroxymatairesinol**

Eklund, P. C., Lindholm, A., Mikkola, J.-P., Smeds, A., Lehtilä, R. & Sjöholm, R., 2003, In: *Organic Letters*. 5, 4, p. 491–493 3 p.

### **Synthetic transformation of hydroxymatairesinol from Norway spruce (*Picea abies*) to 7-hydroxysecoisolariciresinol, (+)-lariciresinol and (+)-cyclolariciresinol**

Eklund, P. C., Sillanpää, R. & Sjöholm, R., 2002, In: *Journal of the Chemical Society, Perkin Transactions 1*. 16, p. 1906–1910 5 p.

## **Activities**

### **Hamid Ardehshiri Lordejani**

Salo-Ahen, O. (Host) & Eklund, P. C. (Host)  
20 Apr 2024 → 31 Dec 2024

### **Gabriel Burlaud**

Eklund, P. C. (Host)  
4 Apr 2022 → 17 Jun 2022

### **Marleny Caceres**

Eklund, P. C. (Host)  
23 Jan 2022 → 30 Jan 2022

## **Projects**

### **CIMANET: Circular Materials Bioeconomy Doctoral Education Network**

Xu, C. (Principal Investigator), Grénman, H. (Co-Principal Investigator), Eklund, P. C. (Principal Investigator) & Toivakka, M. (Principal Investigator)  
01/08/24 → 31/12/27

### **D2V: From Dust to Value - Circular bio-based residues**

Xu, C. (Principal Investigator), Eklund, P. C. (Co-Principal Investigator), Wang, L. (Co-Investigator), Tarasov, D. (Co-Investigator), Nie, Q. (Co-Investigator) & Bhadane, R. R. (Co-Investigator)  
Business Finland  
01/09/23 → 31/08/26

### **LigninReSurf: Novel Fiber Surfaces Functionalized by Lignins Refined and Engineered from Finnish Biorefinery Processes**

Xu, C. (Principal Investigator) & Eklund, P. C. (Principal Investigator)  
Business Finland  
01/01/21 → 31/12/23

## **Merits in teaching and pedagogical competence and leadership**

2015-2019 Head of teaching in Natural Sciences (utbildningslinjeansvarig)  
2018-2023 Head of the master program in chemistry (magisterprogramansvarig)  
2015-2019 Member of the board of education at Åbo Akademi University

Pedagogical training: University pedagogics (25 credits)  
Supervision: Phd-Students 6; M.Sc. Thesis 23; B.Sc. Thesis 28