Name SURNAME Thomas Schäfer			
Function:	Research Professor		
Institution:	POLYMAT Basque Centre for Macromolecular Design & Engineering	□ Funding Agency □ Programme Manager	
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Division	NanoBioSeparations Group		

Areas of Expertise:

Thomas Schäfer is Ikerbasque Research Professor at Polymat (www.polymat.eu). With a background in chemical engineering, he has more than 12 years of research experience in the field of membrane separations, biotechnology and sensor applications. He is currently leading the multi-disciplinary NanoBioSeparations Group which was established with an ERC Starting Grant (MATRIX) focusing on developing highly selective and stimuli-responsive membrane barriers based on DNA-aptamers.

Short Description of your Institution:

POLYMAT is one of the nine Basque Excellence Research Centres with more than 70 researchers and is a leading institute in polymer science and technology with strong emphasis on industrial collaborations involving major chemical industries in Europe. The institute is fully equipped covering polymer research from synthesis to processing, rheology, thermodynamics, characterization and applications (www.polymat.eu). The NanoBioSeparations Group of POLYMAT hosts state-of-the art equipment for membrane surface characterization (QCM-D, DPI, MP-SPR) and spectroscopic facilities for DNA-aptamer research (single-photon counting spectrofluorimeter Ed. Instr., Nanodrop 2000 C).

Role in the project:

POLYMAT will (WP2): a) Fabricate alkaloid-selective membrane surfaces. Their selectivity and specificity as well as that of molecularly imprinted polymers (provided by UL, PT) will be validated using surface plasmon resonance; quartz crystal microbalance with dissipation monitoring; dual polarization interferometry; b) Integrate the selective interfaces into a lab-scale membrane adsorption process unit of facile scale-up; c) Co-design overall membrane process.

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