

# Sylwia Czarnota

Research Associate at The University of Manchester

## CONTACT INFO

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Experienced in solution state NMR, protein NMR (backbone assignment, relaxation, high pressure NMR), expression and cloning of recombinant proteins, crystallography, electrochemistry. Looking for opportunities in Industry.

## EDUCATION

### The University of Manchester, UK, Manchester Institute of Biotechnology

2014 - 2018

Doctor of Philosophy (PhD), Biotechnology

### University of Warsaw, Poland

2010 - 2012

Master's degree, Chemistry; Bioanalytics

### University of Marie Curie, Lublin, Poland

2006 - 2010

Bachelor's degree, Chemistry; Chemistry of bioactive substances and cosmetics,

## RESEARCH EXPERIENCE

### The University of Manchester, UK and C4X discovery

JUNE 2018 - PRESENT

Research Associate

BBSRC Innovation Fellowship Fund for research collaboration between Academia and Industry. Project based on NMR, crystallography and molecular biology.

### The University of Manchester, UK

JUNE 2014 - MAY 2018

Early Stage Researcher

MAGnetic Innovation in Catalysis (MAGIC) - Innovative Doctoral Programme (The University of Manchester). Project based on nuclear magnetic resonance (NMR) experiments to understand enzyme dynamics and structural biology. Involved protein expression and purification, crystallography (two X-ray crystal structures solved to 1.3Å) and NMR (two backbone assignments of ternary complexes completed with 97% coverage, relaxation (with model-free analysis) and high pressure NMR up to 2.5 kbar used for dynamic investigations).

### University of Warsaw

2010 - 2012

Master's degree in Chemistry, Bioanalytics

Electrochemical and spectroscopic investigations of interactions of oligopeptide cis-platinum derivatives with dsDNA; experimental and theoretical investigations of qualitative and quantitative interactions of novel, potentially anticancer, compounds (peptide-tethered cisplatinum derivatives) with biopolymer dsDNA. Techniques used: electrochemical (linear, pulse, and square wave techniques) and spectroscopic techniques (CD spectroscopy, UV-Vis spectroscopy).

### University of Tartu, Estonia

2017

LC-MS method validation on-line course

LC-MS METHOD VALIDATION (P2AV.TK.829), 52 academic hours (52 hours independent learning), 2 ECTS on-line course

Practice-oriented on-line course on validation of analytical methods, specifically using LC-MS as technique.

- The concept, workflow and scope of validation;
- Selectivity and identity confirmation, both via LC and via MS;
- Linearity of signal, linear range, sensitivity and their relation to calibration;
- Precision, trueness, accuracy, analyte stability and their interrelations;
- Limit of detection and limit of quantitation;
- Ruggedness and robustness.

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## University of Tartu, Estonia

2014

### Estimation of Measurement Uncertainty in Chemical Analysis on-line course

Estimation of Measurement Uncertainty in Chemical Analysis (P2AV.TK.652), on-line course by University of Tartu, result: A (excellent), 26 academic hours (26 hours independent learning), 1 ECTS

- The concept and origin of measurement uncertainty.
- The basic concepts and tools (distribution functions, standard uncertainty, A and B type uncertainty estimates).
- Principles of measurement uncertainty estimation (random and systematic effects and definitions for precision, trueness, accuracy).
- Overview of the measurement uncertainty estimation approaches.
- The ISO GUM modeling approach.
- The single lab validation approach.
- Comparison of different approaches.

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## Herbapol Lublin S.A., Poland

JULY 2009 - JULY 2009 (1 MONTH)

### Summer Internship in Department of quality control

Professional training in Herbapol-Lublin S.A. (a pharmaceutical company), in the Department of Quality Control. Duties: quantity and quality analysis (chromatography - TLC, HPLC, titration, laboratory work).

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## SKILLS AND TECHNIQUES

NMR - solution state NMR, protein NMR (backbone assignment, dynamics: relaxation, high-pressure NMR)  
Protein expression, cloning, purification  
Crystallography  
Microsoft, Linux, TopSpin, CCPNMR Analysis, Sparky, PyMOL, Coot, Phenix

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## HONOURS AND AWARDS

### BBSRC Innovation Fellowship Fund (IFF)

JUNE 2018 - NOVEMBER 2018

#### University of Manchester & C4X Discovery

An academic and industrial partnership to exploit methyl transfer enzymes, involves expression, purification, high-resolution X-ray crystallography and NMR investigation of protein-ligand complexes.

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### 1st Biophysical and Biochemical Symposium

JUNE 2016

#### ResoN8 FM group

Prize for the best short talk.

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## PUBLICATIONS

**<sup>1</sup>H, <sup>15</sup>N, <sup>13</sup>C backbone resonance assignments of human soluble catechol O-methyltransferase in complex with S-adenosyl-L-methionine and 3,5-dinitrocatechol**

DECEMBER 2016

**Biomolecular NMR Assignments**

