

# Sławomir Wybraniec



**Academic degrees : dr. hab. eng.**

**Position : associate professor CUT**

**Engineering - technical field**

**Discipline Chemical engineering**

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## **Academic qualifications:**

till 28-02-2021 - Head of the Department of Analytical Chemistry at Faculty of Chemical Engineering and Technology

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## **Membership in professional and academic boards :**

American Chemical Society

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## **Academic merits :**

71 publications in the database Web of Science, Hirsh Index – 21, Number of citations – 1051  
Scientific projects: 1. „Structural research on new betalain pigments”, over the period 2003-2005, financed by POLPHARMA Scientific Foundation; Project No.: 015/2002 – as Principal Investigator; 2. „Influence of physicochemical conditions on chemical changes of betalain colorants and their derivatives”, over the period 2007-2010, financed by MNiSW. Project No.: N205 2991 33 – as Principal Investigator; 3. „ Effect of decarboxylation and dehydrogenation of betalain pigments on their antioxidant properties”, over the period 2007-2010, financed by MNiSW. Project No.: N312 3268 33 – As Investigator; 4. „First studies of photoinduced processes in betalains by femtosecond UV-vis transient absorption spectroscopy.” OPUS, over the period 2014-2017, financed by NCN. Project No.: 2013/09/B/ST4/00273 – As Investigator; 5. „Studies on mechanism of betacyanin pigments oxidation” OPUS, over the period 2015-2017, financed by NCN. Project No.: 2014/13/B/ST4/04854 – as Principal Investigator; 6. „Studies on activity and stability of gomphrenin-based pigments from extracts of *Basella alba* L.” OPUS, over the period 2018-2021, financed by NCN. Project No.: 2017/27/B/NZ9/02831– as Principal Investigator; 7. „ Biological activity of betalains from *Atriplex hortensis* var. *rubra* - dietary significance of the alternative, edible source of dyes for designing new functional food.” over the period 2020-2023, PRELUDIUM - financed by NCN. Project No.: 2019/33/N/NZ9/01590 – as Supervisor

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## **Professional qualifications/language skills**

*English*

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## **Research field :**

Analytical chemistry of natural compounds, Food chemistry, Organic compound bioactivity studies, Liquid chromatography, Countercurrent chromatography, Extraction, Mass spectrometry  
Scientific activity: 1. Analytics of betalain pigments in plant samples: Betalain chromatographic separation methods, Betalain extraction methods, Application of mass spectrometry in betalain analytics, Determination of betalain structures by NMR method. 2. Analytics of natural compounds. 3. Studies on antioxidant and chemopreventive properties of betalains. 4. Fluorescence in betalain pigments. 5. Application of betalain pigments as food colorants (stability of betalains and their decomposition products).

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**Address**

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Cracow University of Technology,  
Faculty of Chemical Engineering and Technology  
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Kliknij lub naciśnij tutaj, aby wprowadzić tekst.  
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**Useful links :**

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<https://www.chemia.pk.edu.pl/pracownicy/strony-osobiste-pracownikow/pracownik/?id=11>  
<http://suw.biblos.pk.edu.pl/userHomepage&uld=78&rel=BPP-author>