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IN MEMORY OF PROFESSOR EDWARD SUCHARDA: APROPOS OF THE 125TH ANNIVERSARY OF BIRTH

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This year we have celebrated the 125th anniversary of Edward Sucharda's [su'hΛrdΛ] birth. Edward Sucharda was an eminent Polish chemist and engineer, a professor of Lviv Polytechnic, its vice-Rector (1933—1935) and Rector (1938—1939), a member of the Polish Academy of Arts and Sciences, the President of the Polish Chemical Society (1947), and a combatant as well. He was born on the 18th day of June 1891 in Brzeżany (now Berezhany, Ternopil region, Ukraine). His father, also Edward Sucharda, was a notary and his mother, Helen Ziembicka (maiden name), was a teacher.

Young E. Sucharda first went to school in Jaroslaw, and later continued his education in Lviv, where he finished the 2nd Real School with honours. He graduated from the Lviv Polytechnic School (later on Lviv Polytechnic) in 1912 with a degree in chemical engineering and seemed to have been taking a genteel path to a scientific career. In 1914 the ambitious E. Sucharda earned his doctorate for the thesis titled: "Acids of 8-oxyquinoline and their derivatives. Dioxyantraquinon-3,7-diquinolin." During World War I, being Prof. Stephen Niementowsky's (August 4th 1866—July 13th 1925) assistant, he was two times conscripted for active military service into the Austrian Army. Towards the end of his active duty he served as a technical officer at an explosive plant on the outskirts of Vienna.

In November 1918 E. Sucharda returned to Lviv, enlisted in the Polish Army and participated in the Battle of *Lwów* (1918) on the side of Poles. During the Polish-Ukrainian War of 1918–1919 he supervised a munitions factory. After the military actions ended, he dwelt in Warsaw for several months, working at the Ministry of War.

In 1920 E. Sucharda, barely 29 years of age, habilitated: ("5,6,8-trioxybenzonaphthyridine and its oxidation to 1,8-naphthyridine derivatives") and took charge of the Department of General Chemistry at the Agricultural and Forestry division of Lviv Polytechnic. In 1921 he was appointed an associate professor, two years later – a professor. After Prof. S. Niementowsky's death (1925) the Department of General and Analytical Chemistry, which had been led by the deceased, partitioned and Prof. E. Sucharda headed the detached Department of Organic Chemistry and chaired it until 1945.

When working at Lviv Polytechnic, the prolific E. Sucharda was recognized as the outstanding organizer and trod on the full way of his scientific career. He was repeatedly elected a member of Senate (the governing council). In 1938 Prof. E. Sucharda became Rector of Lviv Polytechnic. On May 10th 1939, Prof. E. Sucharda was unanimously elected Rector for the next term, but he resigned from the post.

In the days of World War II, during the first Soviet occupation, E. Sucharda headed the Department of Organic Chemistry at the Soviet Lviv Polytechnic Institute. In the period of the Nazi occupation he initiated the foundation of *Technische Fachkurse*, as the German authorities permitted the teaching of students. The students received German identification cards (*Ausweis*), which helped them to avoid deportation to Germany as forced labour.

Meanwhile, he was a member of the Government Delegation for Poland (an Agency of the Polish Government in Exile during the Second World War). The lion-hearted E. Sucharda put in jeopardy his life, as in cooperation with the *AK* (the Home Army, the dominant Polish resistance movement in the World War II German-occupied Poland) he manufactured explosives. In addition, he packaged potassium cyanide in ampoules, which were meant for prisoners and the *AK* members were engaged in extremely risky operations.

Also, he distributed financial aid among artists and scientists who found themselves in difficult material conditions and contrived to eke out their subsistence. One has to take into consideration that it all happened in the city, which was flooded with the *Gestapo* agents; but bold must the man be who attempted such deeds!

After the seizure of Lviv by the Red Army on July 27th 1944, Prof. E. Sucharda remained in the city and continued his work at Lviv Polytechnic. In November 1944 he was captured by the *NKVD* (the Soviet secret police, the most formidable *Bolshevik* punitive organization and the *KGB* predecessor) and was jailed in the notorious *Lonski* prison. He was accused of the "hostile acts against the Soviet authorities." The criminal case was opened under articles 54-1a (high treason) and 54-2 (armed rebellion) of the UkrSSR Criminal Code. The *NKVD* organization was in charge of "revolutionary justice", according to which the death sentence was the only just punishment for the "enemies of the people." But, for a wonder, neither was he shot nor was he deported to a special correction labour camp in the *Gulag*.

In March 1945 E. Sucharda was found not guilty and was discharged. Before too long he joined the exodus of the academic and technical elite to take sanctuary in Poland. Initially, he settled in Krakow, where he guided the Research Laboratory of State Forests and organized Silesian Polytechnic. E. Sucharda was appointed to a professorship of Jagellonian University. Nevertheless, he decided to transfer to Wroclaw.

At the end of World War II, as the troops of the Red Army advanced west, the Germans declared Wroclaw a fortress and battled the Soviet forces for almost three months. By the time the Germans surrendered on May 6th of 1945, 21,600 out of 30,000 buildings in the city were destroyed. Following the surrender, the city was changed beyond any recognition as only 32 percent of the town structures were barely usable. The scenery was utterly desolate; there was scarcely a house, an enclosed piece of ground, or even a tree, to give it an air of cheerfulness. Rats were exceedingly abundant in the city. Thousands of crows formed huge flocks and descended onto the city. 6,000 German soldiers and **170,000 civilians** were killed, while 45,000 were taken prisoners. Soviet losses were over 8,000 soldiers killed, including some 800 officers. The Treaty of Potsdam (1945) gave Wroclaw back to Poland.

When our distress is greatest, God's assistance is nearest. Prof. E. Sucharda founded Wroclaw Polytechnic, and became its vice-Rector. Simultaneously he headed the Department of Organic Chemistry.

E. Sucharda married Maria Wiśniowska (1897–1954). This marriage produced two children: George (an *AK* soldier during World War II, killed in March 1944 in Lviv) and Anne (later on a chemist, Doctor of Chemistry).

On 26 July 1947, Prof. E. Sucharda prematurely departed this life due to the painful kidney-disease acquired during his four months' confinement in the *NKVD* dungeon. He was buried at St Lawrence's Cemetery, Wroclaw. Alongside slumbers Maria Sucharda, who crossed the Stygian ferry in 1954.

The Polish Government three times conferred the Order of Polonia Restituta on the distinguished E. Sucharda: Commander's Cross (1937), Officer's Cross (1947) and posthumous Commander's Cross (1950).

Areas of scientific interests. Prof. E. Sucharda's scientific activity was mainly accompanied by his interest in the chemistry of heterocyclic compounds, which he acquired as Prof. S. Niementowsky's mentee. In cooperation they elaborated the synthesis of heterocyclic amines – naphthyridine and phenantroline derivatives. Their world's first synthesis of 1,5-naphthyridine—the novelty in the chemistry of heterocyclic compounds at the time – deserves special attention.

Another trend was the synthesis of indigo derivatives. In an attempt to synthesize δ-pyrindigo E. Sucharda elaborated a new way to procure quinolinic acid (2,3-pyridindicarboxylic acid): when 8-hydroxyquinoline oxidized with nitric acid, it was converted to quinolinic acid. Having had the convenient technique for the obtaining of quinolinic acid, he succeeded in the synthesis of δ-pyrindigo and outran the foreign competitors. Later on E. Sucharda manifested the synthesis of δ-thio-pyrindigo.

Another field of knowledge he succeeded in was the quantitative analysis of organic compounds. In 1927 Prof. E. Sucharda improved the Świętosławski ebullioscope and in 1928 he represented the new method for the determination of the amount of carbon and hydrogen in an organic compound. At the same time he enhanced the Pregl process for the determination of the amount of nitrogen. These procedures brought him international recognition.

Just before the outburst of World War II Prof. E. Sucharda turned his attention to investigations connected with chemical technology. He improved the chlorination of methane into carbon tetrachloride and chloroform, studied the addition of formic acid to cracked petrol and pinene, and elaborated the method for the manufacturing of crystalline camphor through pinene isomerization.

Prof. E. Sucharda published 57 scientific papers, obtained six patents and wrote two textbooks. He mentored and habilitated several outstanding Polish chemists. Such was the aspect with which the great man presented himself to his judges.

A man of science has a much better chance in science than he has in management. The brilliant E. Sucharda had a shy at both. His path of life shows how distinguished a man can do so many with so few. This short article is just a tiny tribute to Prof. E. Sucharda's commitment to Duty, and his life in science during which he achieved so much.

Prof. E. Sucharda has been memorialized at the present Lviv Polytechnic: there is a commemorative plaque in the hall and his painted portrait is close by Rector's office.