



Salahaddin University-Erbil

PhD Research Proposal پروپوزەلی توێژینهوه بۆ بەدەستهێنانی بروانامە ی دکتورا		
1. Title of PhD research proposal ناوێشانی پروپوزەلی توێژینهوه ی پێشنیازکراو		
The status of some micronutrients and mineralogical properties of main agricultural soils in Kurdistan region.		
2. General information زانیاری گشتی		
Name and surname of the PhD student	Rawaz Khasro Qadar	ناوی سیانی
E-mail	rawazzkh@gmail.com	ئیمیل
Mobile	07503335030	ژمارە ی مۆبایل
Department	Soil and Water	ناوی بەشی زانستی
College / faculty	Agricultural Engineering Sciences	کۆلیژ / فاکهلتی / سکول
university's name	Parallel	ناوی زانکۆ ی میلاک
Name and surname of the supervisor 1	Akram Othman Esmail	ناوی سیانی سه‌ر په‌ر شتیار 1
Scientific title	Professor	پله‌ ی زانستی سه‌ر په‌ر شتیار 1
E-mail	akram.esmail@su.edu.krd	ئیمیلی سه‌ر په‌ر شتیار 1
Mobile	07504672975	ژمارە ی مۆبایل
Department	Soil and Water	ناوی بەشی زانستی

College / faculty	Agricultural Engineering Sciences	کۆلیژ / فاکهلتی / سکول
university's name	Salahaddin University-Erbil	ناوی زانکۆی میلاکی سه‌په‌رشتیار
Name and surname of the supervisor 2(If it is available)	x	ناوی سیانی سه‌په‌رشتیار 2 (نه‌گه‌ر هه‌یه)
Scientific title	x	پله‌ی زانستی سه‌په‌رشتیاری 2
E-mail	x	ئیمیلی سه‌په‌رشتیار 2
Mobile	x	ژماره‌ی مۆبایل
Department	x	ناوی به‌شی زانستی
College / faculty	x	کۆلیژ / فاکهلتی / سکول
university's name	x	ناوی زانکۆ

3. Summary (Abstract) of PhD research proposal

This should be not more than 200 words and not less than 75 words.

ئهبستراکتی توێژینه‌وه‌ی پێش‌نیاز‌کراو. له 200 وشه زیاتر نه‌بێت و له 75 وشه که‌متر نه‌بێت.

The study includes determining availability of some micro nutrients (Zn, Mn, Cu and Fe) and soil minerals starting from 2 theta for the main agricultural soils in Kurdistan region such as soils of (Shamamk, Harir, Hajiomaran and Qaraj plain in Erbil, Sharazoor, Betwain and Pshdar in Sulaimani , Sumail ,Bardarash, Sndi and Sulaivani in Dohuk .

For this purpose, the soil samples will be taken with three replicates at each location at plowing depth (0-30). The soil analysis includes determining of soil routine analysis in additional to concentration of some micronutrients Mn, Zn and Cu. The quantitative clay minerals analysis will be done starting from 2 theta. Finally, the soil will be grouping to different groups using cluster and principal component analysis.

A.O.Esmail

Prof .Dr.Akram Othman Esmail