

1st Announcement for Lecture Course

Isotope, Biomarker & Enzyme Applications in Ecosystem Sciences



Prof. Dr. Yakov Kuzyakov

Scope: All master/PhD students and researchers interested in isotopes applications
Term: 16-18, June, 2016, 9:00 – 17:00 (2 days to the isotopes, 0.5 day to biomarkers and 0.5 to enzymes)
Place: Institute of Subtropical Agriculture (ISA), Chinese Academy of Sciences (CAS)
Registration: Dr. Zhenke Zhu (E-mail: isazzk@126.com; tel: 18175130837)
Ms. Hongzhen Jing (E-mail: jinghongzhen1987@126.com; tel: 18570628006)

The course will cover the following topics: (Extended information: www.uni-goettingen.de/en/123620.html)

- Introduction, Stable and radioactive isotopes, Tracers
- Labeling and natural abundance, Tracer approaches
- Analytics of stable and radioactive isotopes
- Applications of isotopes in soil – plant – relationships studies
 - C and N input by plants into the soil ^{14}C , ^{13}C , ^{15}N , $\delta^{13}\text{C}$
 - C turnover and soil organic matter studies ^{14}C , ^{13}C , ^{15}N , $\delta^{13}\text{C}$
 - Erosion estimation by isotopes ^{137}Cs , ^{210}Pb , ^7Be
 - Autoradiography and imaging ^{14}C , ^{33}P , ^{32}P , ...
 - Isotope dilution method ^{15}N
 - Bomb- ^{14}C ^{14}C
 - Intra-molecular, compound-specific and bulk isotope patterns in C_3 and C_4 plants
 - Future developments: Coupling of isotopes with molecular biology and biomarkers

For more information about the course: www.uni-goettingen.de/en/123620.html

The course include also lectures to

- **Biomarkers** in soil science: Background, Analyses & Applications (held by [Anna Gunina](#))
- **Enzymes** in soil microbiology: Background & Applications, Soil Zymography (held by [Bahar Razavi](#))

Brief introduction of the speakers:

[Dr. Yakov Kuzyakov](#)'s research covers major areas in soil ecology and biogeochemistry, such as C sequestration, C/N turnover, CO_2 fluxes, nutrients, rhizosphere processes, priming effects, bio-degradation, etc. Applications of stable and radioactive isotopes.

Prof. Kuzyakov is Highly Cited Researcher, and published more than 200 referred journal papers.

He is on the Editorial Boards of *European Journal of Soil Biology*, *Soil Biology & Biochemistry*, *Plant & Soil*, and *Journal of Plant Nutrition & Soil Science*.

Prof. Kuzyakov have been working in Germany, Russia, China, USA, UK, Africa, and during 2014, he works as a visiting professor in the CAS, with Prof. Tida Ge as his host.

[Anna Gunina](#) apply isotopic approaches and biomarkers for analyses of C turnover and aggregate formation

[Bahar Razavi](#) use and develop methods of enzyme activities (including soil zymography) for microbial processes

Welcome all scientists interested in isotope, biomarker & enzyme applications!