Obesity is an established risk factor for a growing number of malignancies including cancers of the colorectum, gallbladder, pancreas, endometrium, postmenopausal breast, thyroid, hepatocellular and renal cell carcinoma and oesophageal adenocarcinoma. Obesity is associated with significant metabolic and endocrine abnormalities including alterations in sex hormone metabolism, insulin signalling, and adipokines/inflammatory pathways. All three mechanisms influence the balance between cell proliferation and apoptosis and have been linked to cancer development in both experimental and observational studies. However, it is likely that other, hitherto unrecognised molecular pathways may mediate the adiposity-cancer association. In this presentation I will discuss new molecular epidemiologic approaches to understanding the link between obesity, metabolic dysfunction and cancer, highlighting our ongoing work that exploits metabolomics, genomic and epigenetic tools within the framework of prospective cohort studies, randomized controlled trials and clinical case series.

**Venue:** Lecture Hall Container, Institute of Cancer Research (ICR), Borschkegasse 8a, 1090 Vienna

**Time:** March 13th, 2020, 13.00

**Hosts:** Andrea Gsur, Walter Berger