

Lecture in Honor of Prof. Dr. Gerd Brunner

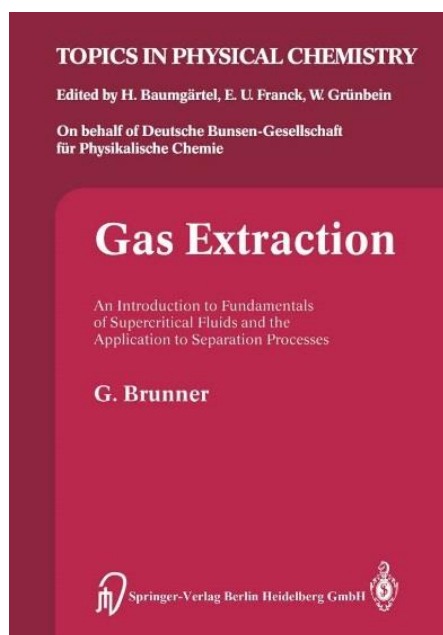
Highlights from 5 decades in high pressure process technology

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Contributing to the sustainable supply of mankind with energy, food, and to the solution of environmental challenges motivate the search for new technological solutions. With his background, Gerd Brunner started his professional career back in 1968 in Erlangen. In 2018 we can look back on 5 decades with groundbreaking contributions in the field of process technology at elevated pressure.



Development of thermophysical high pressure processes is impossible without detailed understanding of phase behavior, heat and mass transfer properties and without demonstration in lab- and technical scale. Based on first scientific publications in the field of multicomponent phase behavior under high pressure, Gerd was one of the pioneers of extraction of liquids with supercritical gases. In one of the most cited textbooks on supercritical technologies he summarized the experience from almost 25 years of process development.

His strong dedication to research motivated him to develop and validate specific approaches for modelling phase behavior, high pressure processes for gas extraction of fats and oils, purification of secondary plant ingredients, reactions in supercritical media e.g. for vitamin synthesis, supercritical water oxidation, (tertiary)

oil recovery, oil shale technologies.

As academic teacher and role model he inspired generations of researchers both from his group and from his world-wide network to apply knowledge-based approaches to develop processes, such as e.g. RESS, GAS (gas antisolvent), PGSS, impregnations, purifications with membranes and many more.

Far beyond his scientific impact his commitment for the high-pressure community e.g. as editor of the Journal of Supercritical Fluids or as chairman of the German high pressure working group cannot be valued high enough.