

## Curriculum Vitae



|                   |                                     |
|-------------------|-------------------------------------|
| Name              | Dr. Chughtai, Mohammed Yaqub        |
| Address (private) | Mozartstr. 4<br>D-51643 Gummersbach |
| Phone (private)   | +49-2261-6 25 40                    |
| Fax (private)     | +49-2261-91 97 39                   |
| e mail (private)  | chughtai@t-online.de                |
| Mobile Phone      | +49-171-8347680                     |
| Place of Birth    | Ladhe Wala/Pakistan                 |
| Marital Status    | Married, three children             |
| Nationality       | German                              |
| Languages         | German, English, Urdu               |

### Education:

|      |   |
|------|---|
| 1964 | „Bachelor of Science“ in Physics and Mathematics at<br>D. J. Science College Karachi/Pakistan               |
| 1971 | „Diplom-Ingenieur“ (Master of Engineering) in Process<br>Engineering at Technical University Aachen/Germany |
| 1980 | Ph. D. at Technical University Aachen/Germany „Heat and<br>Mass Transfer in Air Lift Pump“                  |

## Employment Record:

- 1971 L. & C. Steinmüller Gummersbach/Germany  
Basic design of utility steam generators
- 1972 – 1980 L. & C. Steinmüller Gummersbach/Germany  
R & D-Engineer in the fields of fluid mechanics and  
heat and mass transfer
- 1981 – 1985 L. & C. Steinmüller Gummersbach/Germany  
Head of department „Primary Denox and Desox  
Technologies“
- Responsible for staged mixing burner technology and  
direct desulfurization (Lime injection in furnace)  
World wide 20 plants were built under my supervision,  
most of them retrofit
- 1986 – 1991 L. & C. Steinmüller Gummersbach/Germany  
Head of department „Flue Gas Cleaning“  
Responsible for Direct Desulfurization, Primary  
NOx-Reduction and Activated Carbon Filter
- October 1991 GEA Wärme- und Umwelttechnik GmbH  
Bochum/Germany
- Division Manager Technical
- Company Products: Heat displacement systems,  
steam/gas-heat exchanger, recuperators, small  
waste heat boilers and flue gas cleaning  
(ESP, FGD,SCR)
- My responsibilities:
- Process Engineering
  - Development of software for technical and commercial  
departments
  - Product development (R & D)
  - Review of request for proposals and of prepared  
proposals
  - Review of reclamations
  - Acquisition

August 1993

Hugo Petersen GmbH & Co. KG Wiesbaden/Germany  
(100 % daughter of L. & C. Steinmüller)

Division Manager „Technical Business Planning“

Company Products: Wet FGD, dry FGD, direct desulfurization, wet ESP, aerosol separators, activated carbon filters, SCR, thermal utilization of sewage sludge and biomass gasification

My responsibilities:

- Product development (R & D)
- Development and acquisition of new products
- Development of soft ware
- Patents and Licences
- Acquisition

Feb. 1996

Alb. Klein GmbH & Co. KG Niederfischbach/Germany

Division Manger „Technical Business Planning“

Company Products: sludge dewatering and drying, thermal utilization of sewage sludge, biomass gasification, bulk material handling in power plants and foundries, sand filling plants for rail vehicles and heavy fabrication shop

My responsibilities:

- Product development (R & D)
- Development and acquisition of new products
- Development of soft ware
- Patents and licences
- Acquisition
- Chemical lab
- Workshop for R & D activities

September 1997

Establishment of my own company



Engineering GmbH  
Energy · Hydrogen · Environment

Bunsen Str. 5  
D-51647 Gummersbach  
Tel.: 0 22 61 / 8 14-210  
Fax: 0 22 61 / 8 14-931  
Mobil: 0171/8347680  
e-mail: [chughtai@t-online.de](mailto:chughtai@t-online.de)  
<http://www.huc-gmbh.de>

November 1997

Take-over of the company  
VGU Ingenieurgesellschaft für Energie- und Umwelttechnik  
mbH, established since 1980 in Gummersbach



VGU Ingenieurgesellschaft für  
Energie- und Umwelttechnik mbH

Bunsen Str. 5  
D-51647 Gummersbach

Tel.: +49 2261/814-210  
Fax: +49 2261/814-931

e-mail: [chughtai@t-online.de](mailto:chughtai@t-online.de)

September 2000

Mergence of H&C and VGU into  
H&C-VGU Engineering GmbH  
Chief Executive & Management Director

Engineering GmbH  
**H&C VGU**  
Energy • Hydrogen • Environment

Bunsenstr. 5  
D-51647 Gummersbach/Germany

Telefon: +49 2261 / 814-210  
Telefax: +49 2261 / 814-931

e-mail: [chughtai@t-online.de](mailto:chughtai@t-online.de)  
<http://www.huc-gmbh.de>

May 2001-April 2004

Member of Proposals Evaluation Committee at  
European Union as an expert in energy and environment  
protection

Since June 2004

member of Steering Committee at European Union as an  
expert in energy and environmental protection

October 1<sup>st</sup> 2002

Take over of 100 % of the company shares  
Shift of the company to Mozartstr. 4 in Gummersbach

Engineering GmbH  
**H&C VGU**  
Energy • Hydrogen • Environment

Mozartstr. 4  
D-51643 Gummersbach/Germany

Telefon: +49 2261 / 804640  
Telefax: +49 2261 / 804641

e-mail: [chughtai@t-online.de](mailto:chughtai@t-online.de)  
<http://www.huc-vgu.de>

## Publications

1. Chughtai, M. Y.: Gasförderpumpe mit Wärmeaustausch.  
Fortschr.-Ber. VDI-Z., Reihe 3, Nr. 58, 1980.
2. Chughtai, M. Y.: Wiederaufheizung von Rauchgasen aus Rauchgasreinigungsanlagen durch Wärmetauscher.  
Brennstoff-Wärme-Kraft 33 (1981) Nr. 5
3. Chughtai, M. Y.: Staubstromverteilung hinter quer angeströmten Stabbündeln.  
Brennstoff-Wärme-Kraft 34 (1982) Nr. 2
4. Chughtai, M. Y. und Michelfelder, S.: Schadstoffeinbindung durch Additiveinblasung um die Flamme.  
Brennstoff-Wärme-Kraft 35 (1983) Nr. 3
5. Michelfelder, S. und Chughtai, M. Y.: Direktentschwefelung in Dampferzeugerfeuerungen.  
Vortrag auf dem Jahrestreffen 1984 der Verfahreningenieure in München.
6. Chughtai, M. Y., Hein, K., Kirchen, G. und Michelfelder, S.: Rauchgasentschwefelungstechnologie-Additiveingabe.  
Jahrbuch der Dampferzeugertechnik – 5. Ausgabe 1985/86
7. Chughtai, M. Y., Leikert, K. und Michelfelder, S.: Operation and performance report of the Steinmüller low NO<sub>x</sub> SM-Burner and its potential towards utility boiler SO<sub>x</sub>-Control via sorbent injection.  
Joint Symposium on Stationary Combustion NO<sub>x</sub> Control, EPA and EPRI, Dallas/Texas, 1. – 4. Nov. 1982.
8. Chughtai, M. Y. and Michelfelder, S.: Direct Desulfurization through Additive Injection in the Vicinity of the Flame.  
Eighth Symposium on Flue Gas Desulfurization, EPA and EPRI, New Orleans/Louisiana, 1. – 4. Nov. 1983.
9. Chughtai, M. Y.: Results of Direct Desulfurization Tests at 700 MW<sub>el</sub> Power Station Weiher III.  
Joint Symposium on Flue Gas Desulfurization, EPA und EPRI, San Diego/CA, Nov. 1984.

10. Chughtai, M. Y., Payne, R. and Reese, J. L.: Evaluation of Sorbent Injection Test at Tiefstack Hamburg.  
  
Joint Symposium on Flue Gas Desulfurization, EPA and EPRI, San Diego/CA, Nov. 1984.
11. Chughtai, M. Y.: Results of Direct Desulfurization from Commercial Power Plants.  
  
1986 Joint Symposium on Dry SO<sub>2</sub> and Simultaneous SO<sub>2</sub>/NO<sub>x</sub> Control Technologies, EPA and EPRI, Raleigh/NC, 2. – 6. June 1986.
12. Chughtai, M. Y.: Desulfurization Results for Three Different Firing Concepts.  
  
First Combined FGD and Dry SO<sub>2</sub> Control Symposium EPA and EPRI, St. Louis/Missouri, Oct. 25. – 28./1988
13. Chughtai, M. Y., Linneweber, K. W. and Schmid, C.: Direct Desulfurization in Combination with Polishing Reactor.  
  
1990 SO<sub>2</sub> Control Symposium, EPA and EPRI, New Orleans/Louisiana, May 8. – 11./1990
14. Chughtai, M. Y., Linneweber, K. W. und Schmid, C.: Erfahrungen beim Betrieb einer Versuchsanlage zur Direktentschwefelung mit Nachreaktionsstrecke an einem Steinkohlebefeuerten 65 MW-Wanderrostkessel.  
  
VGB-Seminar, Industrie- und Heizkraftwerke, Essen, 9. – 10. Okt. 1990
15. Chughtai, M. Y. Braun, A. und Schmid, C.: Thermische Klärschlammverwertung in der Zykloidfeuerung.  
  
17. Deutscher Flammentag, 12./13. Sept. 1995, Hamburg
16. Chughtai, M. Y.: Hydrogen from Biomass  
  
Energie Spektrum, Okt. 1997
17. Chughtai, M. Y.: Hybrid system optimisation to produce electricity with wind turbines and photo voltaic cells for small household units  
  
International Renewable Energy Conference, Cologne/Germany may 2001
18. Chughtai, M. Y.: Scope of mechanical and biological treatment of household waste in developing countries  
EU contract no. ALA/95/21-B7-3010/27; 2002

## Patents

1. Process to inject the additive in a gas stream
2. Process to uniform the particulate distribution in a vertical downstream duct
3. Process to clean the flue gases within the furnace
4. Process to clean the flue gases from slag-tap furnace
5. Process to clean the flue gases with  $\text{NH}_3$
6. Direct desulfurization in combination with flyash recirculation
7. Process to reduce the gas pollutants  $\text{SO}_x$ , HF and HCl
8. Process to reduce the particulate concentration at the inlet of the filter in a dry gas cleaning system
9. Process and equipment to dry the wet material at low temperature
10. Process to pre-condition the biowaste for optimised gasification