



UNIVERSITY OF CALCUTTA

ACADEMIC DEPARTMENT

FACULTY ACADEMIC PROFILE/ CV

1. **Full name of the faculty member:** Prof. (Dr.) Asim Kumar De
2. **Designation:** Professor
3. **Specialization:** Process Control, Mass Transfer Operations, Fluid Flow, Environmental Engineering
4. **Passport size photograph :**



5. **Contact information :**
E-mail: adchemengg@caluniv.ac.in; akdecuce@gmail.com
6. **Academic qualifications:**

College/ university from which the degree was obtained	Abbreviation of the degree
University of Calcutta	B. Tech in Chem. Engg.
IIT Kharagpur	M. Tech in Chem. Engg.
University of Calcutta	Ph.D. (Tech)

7. **Positions held/ holding:**
Developmental Engineer – PCTL
Assistant Professor – CU
Principal – VVTI
Associate Professor - CU
Professor - CU
8. **Research interests:**
 - Environmental Engineering
 - Nano Technology

9. **Research guidance:**

Number of researchers awarded M.Tech degrees (Project) : 10

Number of researchers pursuing/completed M.Phil/ Ph.D : 4

10. **Projects :**

Completed projects: 1

11. **Select list of publications:**

a) *Journals:*

[1] A.K. De, S. Bhattacharjee and B.K. Dutta, "Kinetics of phenol photo-oxidation by hydrogen peroxide and ultraviolet radiation", Industrial & Engineering Chemistry Research, 36 (1997) p3607-3612.

[2] A.K. De, B. Chaudhuri and S. Bhattacharjee, "A comparative study of phenol degradation using reagents", Institutions of Engrs. (I) Journal, 79 (1998) p4-7.

[3] A.K. De and B. Chaudhuri, "Waste Plastics : Their recycling and related issues", Science and Culture 64 (11-12) (1998) 249.

[4] A.K. De, B. Chaudhuri and S. Bhattacharjee, "A kinetic study of the oxidation of phenol, o-chlorophenol and catechol by hydrogen peroxide between 298 K and 333 K : the effect of pH, temperature and ratio of oxidant to substrate", Journal of Chemical Technology & Biotechnology, 74 (1999) p162-168.

[5] A.K. De, B. Chaudhuri, S. Bhattacharjee and B.K. Dutta, "Estimation of OH[•] radical reaction rate constants for phenol and chlorinated phenols using UV/H₂O₂ photo-oxidation", Journal of Hazardous Materials, B64 (1999) p91-104.

[6] A.K. De, B. Chaudhuri, S. Bhattacharjee and B. K. Dutta, "A practical application of the advanced oxidation processes for wastewater treatment", Indian Chemical Engineer, A41(2) (1999) p63.

[7] A. Mandal, K. Ojha, A. K. De and S. Bhattacharjee, "Removal of catechol from aqueous solution by advanced photo-oxidation process", Chemical Engineering Journal, 102 (2004) p203-208.

[8] A. K. De, "Some studies on heat transfer in the riser section of a cyclone suspension preheater", Journal of Enhanced Heat Transfer, 12(3) (2005) 249.

[9] A.K. De, S. Bhattacharjee and B.K. Dutta, "Reaction kinetics for the degradation of phenol and chlorinated phenols using Fenton's reagent", Environmental Progress, 25(1) (2006) p64-71.

[10] A.K.De and S. Bhattacharjee, "Kinetics of the oxidative reaction of phenol and chlorinated phenols employing Fenton Reagent", Prog. Env. Sc. & Technol, 2(A), (2009) 410.

[11] A. K. De and A. De, "Role of color transformation during Fenton's oxidation of phenolic wastewater in a large scale continuous stirred tank reactor (CSTR)", J. Indian Chemical Society, 90, (2013) p1-9.

[12] A.K.De and A.De, "Oxidation kinetics of phenol and chlorinated phenols with hydrogen peroxide in a continuous stirred tank reactor", International Journal of Environmental Protection, 4(4), (2014) p36-47.

[13] A.K.De and A.De, "Reaction rate constants for hydrogen peroxide oxidation of phenol and chlorinated phenols in a continuous stirred tank reactor", International Journal of Engg. Res. & Tech., 3(6), (2014) p222-226.

[14] A.K.De, "Oxidative degradation of phenol and chlorophenols modified with homogeneous catalyst in a large scale CSTR", Intl. J. of Ind. Engg. & Tech., 4(3), (2014) p1-12.

[15] A.K.De, "UV-Enhanced oxidative degradation of industrial effluent", Intl. J. of Ind. Engg. & Tech., 4(3), (2014) p13-22.

[16] A.K.De, "A comparison on effectiveness of degradation of phenol and phenolic substrates by (i) UV Radiation (ii) H₂O₂ Oxidation, and Enhanced Oxidation by (iii) UV/H₂O₂ (iv) H₂O₂/Fe⁺² and (v) UV/H₂O₂/Fe⁺²", J. Engg. & Technol., 5(2) (2015) p1-10.

[17] A. De, A.K. De, G.S.Panda and S.Haldar, "Synthesis of iron-based nanoparticles and comparison of their catalytic activity for degradation of phenolic waste water in a small-scale batch reactor", Desalination & Water Treatment, 57(52), (2016) p-25170-25180.

[18] A.De, A.K.De, G.S.Panda and S. Halder, "Synthesis of zero valent iron nanoparticle and its application as a dephenolization agent for coke oven plant wastewater situated in West Bengal: India", Env. Prog. & Sust. Energy, 36(6), (2017) p-1700-1708.

b) **Books/ book chapters :**

“Control Technology for Volatile Organic Compounds: Recent Advances” by A.K. De and B.K. Dutta, Industrial Pollution – Technologies for Abatement and Control, p143-157, Allied Publishers Ltd., New Delhi, 2001.

c) **Conference/ seminar volumes:**

Presented and published good numbers of Conference/ Seminar /Workshop papers

12. **Membership of Learned Societies:**

1. Life Member – Indian Institute of Chemical Engineers (IChE)
2. Life Member – Indian Association for Air Pollution Control (IAAPC)

14. **Invited lectures delivered:**

Invited lectures delivered on different occasions in Technical as well as non-Technical forums.

15. **Awards:**

National Merit Scholarship Award
Gold Medal Award from IEI for best paper publication

16. **Other notable activities:**

- Served as Departmental Head
- Provided six years additional services to the University of Calcutta as University Engineer
- Elected in IChE Council and acted Treasurer and Secretary of the Organization
- Acted as Member of UGC inspection teams
- University (MAKAUT) Nominee to THA Governing Body.