

- ✓ Abbott, L. K., and Murphy, D. V. (2007). What is Soil Biological Fertility?. In *Soil Biological Fertility* 1-15 Springer Netherlands.
- ✓ Abdel-Hamid, M. A., Attwood, M. M. and Guest, J. R. (2001) Pyruvate oxidase contributes to the aerobic growth efficiency of *Escherichia coli*. *Microbiol.* **147**, 1483-1498
- ✓ Abel, S., Ticconi, C. A., Delatorre, C.A., (2002) Phosphate sensing in higher plants. *Physiol Plant* **115**, 1–8.
- ✓ Achal, V., Savant, V.V., Reddy S.M., (2007) Phosphate Solubilization by Wide Type Strain and UV-induced mutants of *Aspergillus tubingensis*. *Soil Biology and Biochemistry*. **39**, (2) 695-699, ISSN 0038-0717
- ✓ Adesemoye, A. O., and Kloepper, J. W. (2009). Plant-microbes interactions in enhanced fertilizer-use efficiency. *Applied microbiology and biotechnology*, **85**(1), 1-12.
- ✓ Adhikary H. (2012) Genetic engineering of *P. fluorescens* for enhanced citric acid secretion M. S. University of Vadodara, Ph.D.Thesis.
- ✓ Aditya, B., Ghosh, A., and Chattopadhy, D. (2009). Co-inoculation effects of nitrogen fixing and phosphate solubilising microorganisms on Teak (*Tectona grandis*) and Indian redwood (*Chukasia tubularis*). *Journal of Biological Science*, **1**, 23-32.
- ✓ Afzal, A. and Bano, A. (2008) *Rhizobium* and Phosphate Solubilizing Bacteria Improve the Yield and Phosphorus Uptake in Wheat (*Triticum aestivum*). *International Journal of Agricultural Biology*. **10** (Suppl 1): 85-88
- ✓ Ahemad, M., and Khan, M. S. (2011). Functional aspects of plant growth promoting rhizobacteria: recent advancements. *Insight Microbiol*, **1**(3), 39-54.
- ✓ Alikhani, H.A., Saleh-Rastin, N. and Antoun, H. (2006) Phosphate solubilization activity of rhizobia native to Iranian soils. *Plant Soil*. **287**, 35–41.

- ✓ Aliverdieva, D. A., Mamaev, D. V., Bondarenko, D. I., and Sholtz, K. F. (2006). Properties of yeast *Saccharomyces cerevisiae* plasma membrane dicarboxylate transporter. *Biochemistry (Moscow)*, **71**(10), 1161-1169.
- Ames, B. N. (1966). Assay of inorganic phosphate, total phosphate and phosphatases. *Methods Enzymol* **8**, 115–118.
- ✓ Andrews, M., Lea, P. J., Raven, J. A., and Azevedo, R. A. (2009). Nitrogen use efficiency. 3. Nitrogen fixation: genes and costs. *Annals of Applied Biology*, **155**(1), 1-13.
- ✓ Anoop, V. M., Basu, U., McCammon, M. T., McAlister-Henn, L. and Taylor, G. J. (2003) Modulation of citrate metabolism alters aluminum tolerance in yeast and transgenic *Canola* overexpressing a mitochondrial citrate synthase. *Plant Physiol.* **132**, 2205-2217
- ✓ Antoun, H., Beauchamp, J., Goussard, N., Chabot, R., Lalande, R. (1998) Potential of Rhizobium and Bradyrhizobium species as plant growth promoting rhizobacteria on non-legumes: Effect on radishes (*Raphanus sativus* L.). *Plant Soil*, **204**, 57–67.
- ✓ Aoshima, M., Ishii, M., Yamagishi, A., Oshima, T. and Igarashi, Y. (2003) Metabolic characteristics of an isocitrate dehydrogenase defective derivative of *Escherichia coli* BL21(DE3). *Biotechnol. Bioeng.* **84**(6), 732-737
- ✓ Arcand, M. M., and Schneider, K. D. (2006). Plant-and microbial-based mechanisms to improve the agronomic effectiveness of phosphate rock: a review. *Anais da Academia Brasileira de Ciências*, **78**(4), 791-807.
- ✓ Archana, G., Buch A, Naresh Kumar G (2012) Pivotal role of organic acid secretion by rhizobacteria in plant growth promotion, In: Satyanarayan T, Johri BN, Prakash A, editors. *Microorganisms in Sustainable Agriculture and Biotechnology*. Springer, pp. 35-53.
- ✓ Arias A, Cervenansky,C., Gardiol,A.Martinez-Drets, (1979)G. Phosphoglucose Isomerase Mutant of *R. meliloti*. *J.Bacteriology*, **137**, No.1, 409-414

- ✓ Arthur, L. O., L. A. Bulla, Jr., G. St. Julian, and L. K. Nakamura. 1973. Carbohydrate metabolism in *Agrobacterium tumefaciens*. J. Bacteriol. 116: 304–313.
- ✓ Asea, P. E. A., Kucey, R. M. N., and Stewart, J. W. B. (1988). Inorganic phosphate solubilization by two *Penicillium* species in solution culture and soil. *Soil Biology and Biochemistry*, 20(4), 459-464.
- ✓ Ashraf, M. A., Asif, M., Zaheer, A., Malik, A., Ali, Q., and Rasool, M. (2013). Plant growth promoting rhizobacteria and sustainable agriculture: A review. *Afr J Microbiol*, 7(9), 704-709.
- ✓ Bailey, J. E., Shurlati, A., Hatzimanikatis, V., Lee, K., Renner, W. A. and Tsai, P. E. (1996) Inverse metabolic engineering a strategy for directed genetic engineering of useful phenotypes. *Biotechnol. Bioeng.* 52, 109-121
- ✓ Bal, H. B., Das, S., Dangar, T. K., and Adhya, T. K. (2013). ACC deaminase and IAA producing growth promoting bacteria from the rhizosphere soil of tropical rice plants. *Journal of basic microbiology*.
- ✓ Baldwin IL, Fred EB (1929) Nomenclature of the root nodule bacteria of the Leguminosae. *J Bacteriol* 17:141–150
- ✓ Bambara, S., and Ndakidemi, P. A. (2010). Phaseolus vulgaris response to Rhizobium inoculation, lime and molybdenum in selected low pH soil in Western Cape, South Africa. *African Journal of Agricultural Research*, 5(14), 1804-1811.
- ✓ Bandara, W. M. M. S., Seneviratne, G., and Kulasekera, S. A. (2006). Interactions among endophytic bacteria and fungi: effects and potentials. *Journal of biosciences*, 31(5), 645-650.
- ✓ Bandell, M., Lhotte, M. E., Marty-Teysset, C., Veyrat, A., Prevost, H., Dartois, V., ... and Lolke, J. S. (1998). Mechanism of the Citrate Transporters in Carbohydrate and Citrate Cometabolism in *Lactococcus* and *Leuconostoc* Species. *Applied and environmental microbiology*, 64(5), 1594-1600.

- ✓ **Banik, S. and Day, B.K. (1982)** Available Phosphate Content of an Alluvial Soil as Influenced by Inoculation of Some Isolated Phosphate Solubilizing Microorganisms. *Plant and Soil*, **69**, (3), 353-364, ISSN 1573-5036.
- ✓ **Bargaz, A., Ghoulam, C., Faghire, M., Attar, H. A., and Drevon, J. J. (2011)**. The nodule conductance to O₂ diffusion increases with high phosphorus content in the Phaseolus vulgaris-rhizobia symbiosis. *Symbiosis*, **53**(3), 157-164.
- ✓ **Barlog P, Grzebisz W (2004)** Effect of timing and nitrogen fertilizer application on winter oilseed rape (*Brassica napus L.*). II. Nitrogen uptake dynamics and fertilizer efficiency. *J Agron Crop Sci* **190**:314–323
- ✓ **Barth, P. T., Datta, N. A. O. M. I., Hedges, R. W., and Grinter, N. J. (1976)**. Transposition of a deoxyribonucleic acid sequence encoding trimethoprim and streptomycin resistances from R483 to other replicons. *Journal of bacteriology*, **125**(3), 800-810.
- ✓ **Bejandi, T. K., Sharifi, R. S., Sedghi, M., and Namvar, A. (2011)**. Effects of plant density, Rhizobium inoculation and microelements on nodulation, chlorophyll content and yield of chickpea (*Cicer arietinum L.*), *Inter. J. of Biol. And Aric, Res*, **23**(3), 1067-178.
- ✓ **Belimov, A. A., Safranova, V. I., Sergeyeva, T. A., Egorova, T. N., Matveyeva, V. A., Tsyganov, V. E., ... and Stepanok, V. V. (2001)**. Characterization of plant growth promoting rhizobacteria isolated from polluted soils and containing 1-aminocyclopropane-1-carboxylate deaminase. *Canadian Journal of Microbiology*, **47**(7), 642-652.
- ✓ **Bernardelli, C. E., Luna, M. F., Galar, M. L., and Boiardi, J. L. (2001)**. Periplasmic PQQ-dependent glucose oxidation in free-living and symbiotic rhizobia. *Current Microbiology*, **42**(5), 310-315.
- ✓ **Bernardelli, C. E., Luna, M. F., Galar, M. L., and Boiardi, J. L. (2008)**. Symbiotic phenotype of a membrane-bound glucose dehydrogenase mutant of *Sinorhizobium meliloti*. *Plant and soil*, **313**(1-2), 217-225.

- ✓ **Berović, M. and Legisa, M. (2007)** Citric acid production. *Biotechnol. Annu. Rev.* **13**, 303-343
- Bert, Boesten. and Ursula, B. Priefer. (2004)** The C-terminal receiver domain of the *Rhizobium leguminosarum* bv. *viciae* FixL protein is required for free-living microaerobic induction of the *fnrN* promoter *Microbiology* **150**: 3703–3713.
- ✓ **Bhattacharyya, P. N., and Jha, D. K. (2012).** Plant growth-promoting rhizobacteria (PGPR): emergence in agriculture. *World Journal of Microbiology and Biotechnology*, **28**(4), 1327-1350.
- ✓ **Bhayana, V., and Duckworth, H. W. (1984).** Amino acid sequence of *Escherichia coli* citrate synthase. *Biochemistry*, **23**(13), 2900-2905.
- ✓ **Bianco, C., and Defez, R. (2009).** *Medicago truncatula* improves salt tolerance when nodulated by an indole-3-acetic acid-overproducing *Sinorhizobium meliloti* strain. *Journal of experimental botany*, **60**(11), 3097-3107.
- Bianco, C., and Defez, R. (2010a).** Auxins upregulate *nif* and *fix* genes. *Plant signaling and behavior*, **5**(10), 1290-1294.
- Bianco, C., and Defez, R. (2010b).** Improvement of phosphate solubilization and *Medicago* plant yield by an indole-3-acetic acid-overproducing strain of *Sinorhizobium meliloti*. *Applied and environmental microbiology*, **76**(14), 4626-4632.
- Bianco, C., Imperlini, E., Calogero, R., Senatore, B., Amoresano, A., Carpentieri, A and Defez, R. (2006).** Indole-3-acetic acid improves *Escherichia coli*'s defences to stress. *Archives of microbiology*, **185**(5), 373-382.
- ✓ **Bisseling T, Bos RCVD, Kammen AV, Ploeg MVD, Duijn PV and Houwers A (1977)** Cytofluorometrical determination of the DNA contents of bacteroids and corresponding broth-cultured Rhizobium bacteria. *J Gen Microbiol* **101**: 79–84.
- Biswas, J.C., Ladha, J.K., Dazzo, F.B., (2000a)** Rhizobia inoculation improves nutrient uptake and growth of lowland rice. *Soil Sci Soc Am J*. **64**, 1644–1650.

- Biswas, J.C., Ladha, J. K., Dazzo, F.B., Yanni, Y.G., Rolfe BG (2000b)** Rhizobial inoculation influences seedling vigor and yield of rice. *Agronom J* **92**, 880–886.
- Blankschien ,M.D., Clomburg, J. and Gonzalez, R.(2010)** Metabolic engineering of *Escherichia coli* for the production of succinate from glycerol. *Metab Eng* , **12**, 409-419.
- ✓**Blazeck, J., Alper, H., 2010.** Systems metabolic engineering: genome-scale models and beyond. *Biotechnol. J.* **5**, 647–659.
- ✓**Boiero, L. D., Perrig, O., Masciarelli, C., Penna, F., Cassan, V. L., (2007)** Phytohormone production by three strains of *Bradyrhizobium japonicum* and possible physiological and technological implications. *Appl. Microbiol. Biotechnol.* **74**, (4), 874-880.
- ✓**Bonaldi K, Gargani D, Prin Y et al. (2011)** Nodulation of *Aeschynomene afraspera* and *A. indica* by photosynthetic *Bradyrhizobium* sp. strain ORS285: the nod-dependent versus the nod-independent symbiotic interaction. *Mol Plant Microbe Interact* **24**: 1359–1371.
- ✓**Bongaerts, J., Kramer, M., Muller, U., Raeven, L. and Wubbolts, M. (2001)** Metabolic engineering for microbial production of aromatic amino acids and derived compounds. *Metab. Eng.* **3**, 289-300
- ✓**Boorsma, A., Michel, E. van der Rest, Lolkema, Jukes S., Konings, W. N. (1996).** Secondary Transporters for Citrate and the Mg²⁺ -Citrate Complex in *Bacillus subtilis* are Homologous Proteins. *J.Bacteriol* **178**, 6216–6222.
- ✓**Bott, M., Meyer, M., and Dimroth, P. (1995).** Regulation of anaerobic citrate metabolism in *Klebsiella pneumoniae*. *Molecular microbiology*, **18**(3), 533-546. ↗ 007-?
- ✓**Brookshire, E. N. J., Gerber, S., Menge, D. N., and Hedin, L. O. (2012).** Large losses of inorganic nitrogen from tropical rainforests suggest a lack of nitrogen limitation. *Ecology letters*, **15**(1), 9-16.

- ✓ **Buch, A. D., Archana. G. Naresh Kumar, G (2009a)** Enhance citric acid biosynthesis in *Pseudomonas fluorescens* ATCC 13525 by overexpression of the *Escherichia coli* citrate synthase gene. *Microbiol.* **155**: 2620-2629.
- ✓ **Buch, A., Archana, G. and Naresh Kumar, G. (2009b)**: Metabolic channeling of glucose towards gluconate in phosphate-solubilizing *Pseudomonas aeruginosa* P4 under phosphorus deficiency. *Research in microbiology* **159**, 635–42. .
- ✓ **Buch, A. D, Archana, G. Naresh Kumar G (2010a)** Heterologous expression of phosphoenolpyruvate carboxylase enhances the phosphate solubilizing ability of fluorescent pseudomonads by altering the glucose catabolism to improve biomass yield. *Bioresour. Technol.* **101**: 679–687.
- ✓ **Buch, A. D., Archana, G. and Naresh Kumar, G. (2010b)**. Broad-host-range plasmid-mediated metabolic perturbations in *Pseudomonas fluorescens* 13525. *Applied microbiology and biotechnology* **88**, 209–18.
- ✓ **Bugg, T., Foght, J. M., Pickard, M. A. and Gray, M. R. (2000)** Uptake and active efflux of polycyclic aromatic hydrocarbons by *Pseudomonas fluorescens* LP6a. *Appl. Environ. Microbiol.* **66**, 5387–5392
- ✓ **Burgstaller, W. and Schinner, F. (1993)**. Leaching of metals by fungi. *J Biotechnol* **27**, 91–116.
- ✓ **Burgstaller, W. (2006)**. Thermodynamic boundary conditions suggest that a passive transport step suffices for citrate excretion in *Aspergillus* and *Penicillium*. *Microbiology (Reading, England)* **152**, 887–93.
- Caetano-Anolle's G, Crist-Estes DK, Bauer WD (1988)** Chemotaxis of *Rhizobium meliloti* on the plant flavone luteolin requires functional nodulation genes. *J Bacteriol* **170**:3164–3169

- ✓ **Caetano-Anolle's G, Crist-Estes DK, Bauer WD (1988)** Chemotaxis of Rhizobium meliloti on the plant flavone luteolin requires functional nodulation genes. *J Bacteriol* **170**:3164–3169
- ✓ **Carson, K. C., Holliday, S., Glenn, A. R., and Dilworth, M. J. (1992).** Siderophore and organic acid production in root nodule bacteria. *Archives of microbiology*, **157**(3), 264-271.
- ✓ **Chabot, R., Antoun, H. Cescas, M. P., (1996)** Growth promotion of maize and lettuce by phosphate-solubilizing *Rhizobium leguminosarum* biovar. *Phaseoli*, *Plant and Soil*. **184**, 311-321.
- ✓ **Chaiharn, M., Chunhaleuchanon, S., Kozo, A., and Lumyong, S. (2008).** Screening of rhizobacteria for their plant growth promoting activities. *KMITL Science and Technology Journal*, **8**(1), 18-23.
- ✓ **Chakraborty, A., Chakrabarti, K., Chakraborty, A., and Ghosh, S. (2011).** Effect of long-term fertilizers and manure application on microbial biomass and microbial activity of a tropical agricultural soil. *Biology and Fertility of Soils*, **47**(2), 227-233.
- Chanchal Kumar Kavita Yadav G. Archana G. Naresh Kumar (2013)** 2-Ketogluconic Acid Secretion by Incorporation of *Pseudomonas putida* KT 2440 Gluconate Dehydrogenase (gad) Operon in *Enterobacter asburiae* PSI3 Improves Mineral Phosphate Solubilization *Curr Microbiol*. **67**:388–394
- ✓ **Chao, Y. P. and Liao, J. C. (1993)** Alteration of growth yield by overexpression of phosphoenolpyruvate carboxylase and phosphoenolpyruvate carboxykinase in *Escherichia coli*. *Appl. Environ. Microbiol.* **59**, 4261–4265
- ✓ **Chaparro, J. M., Sheflin, A. M., Manter, D. K., and Vivanco, J. M. (2012).** Manipulating the soil microbiome to increase soil health and plant fertility. *Biology and Fertility of Soils*, **48**(5), 489-499.

- ✓ Chen, Y. P., Rekha P. D., Arunshen A. B., Lai W. A., and Young C. C., (2006) Phosphate solubilizing bacteria from subtropical soil and their tricalcium phosphate solubilizing abilities. *Appl. Soil Ecol.* **34**, 33-41
- ✓ Chou, C. P. (2007). Engineering cell physiology to enhance recombinant protein production in *Escherichia coli*. *Appl Microbiol Biotechnol* **76**, 521–532. doi:10.1007/s00253-007-1039-0.
- ✓ Clark, D. P. (1989) The fermentation pathways of *Escherichia coli*. *FEMS Microbiol. Rev.* **5**, 223–234
- Compart, S., Duffy, B., Nowak, J., Clément, C., and Barka, E. A. (2005). Use of plant growth-promoting bacteria for biocontrol of plant diseases: principles, mechanisms of action, and future prospects. *Applied and environmental microbiology*, **71**(9), 4951-4959.
- ✓ Contesto, C., Desbrosses, G., Lefoulon, C., Béna, G., Borel, F., Galland, M. and Touraine, B. (2008). Effects of rhizobacterial ACC deaminase activity on *Arabidopsis* indicate that ethylene mediates local root responses to plant growth-promoting rhizobacteria. *Plant Science*, **175**(1), 178-189.
- ✓ Cordell, D., Rosemarin, A., Schröder, J.J. and Smit, A.L.(2011). Towards global phosphorus security: A systemsframework for phosphorus recovery and reuse options. *Chemosphere*, **84**: 747-758
- ✓ Costa, H., Gallego, S. M., and Tomaro, M. L. (2002). Effect of UV-B radiation on antioxidant defense system in sunflower cotyledons. *Plant Science*, **162**(6), 939-945.
- ✓ Costa, P.B., Beneduzi, A., Souza, R., Schoenfeld, R., Vargas, L.K., Passaglia, L.M. (2013) The effects of different fertilization conditions on bacterial plant growth promoting traits: guidelines for directed bacterial prospection and testing. *Plant Soil* **368**, 267–280.
- ✓ Cremer, J., Eggling, L. and Sahm, H. (1991) Control of the lysine biosynthesis sequence in *Corynebacterium glutamicum* as analyzed by overexpression of the individual corresponding genes. *Appl. Environ. Microbiol.* **57**(6), 1746-1752

- ✓ Cunningham, J.E. and Kuiack, C. (1992). Production of Citric and Oxalic Acids and Solubilization of Calcium Phosphates by *Penecillium Bilaii*. Applied and Environmental Microbiology, **58**, No. 5, (May 1992), 1451-1458, ISSN 0099-2240
- ✓ Daimon, H., Nobuta, K., Ohe, M., Harada, J. and Nakayama, Y. (2006) Tricalcium phosphate solubilization by root nodule bacteria of *Sesbania cannabina* and *Crotalaria juncea*. Plant Prod Sci 9, 388–389.
- ✓ Dauner, M., Storni, T. and Sauer, U. (2001) Bacillus subtilis metabolism and energetics in carbon-limited and carbon-excess chemostat culture. J. Bacteriol. **183**, 7308–7317.
- ✓ De Freitas, J.R., Banerjee, M.R., and Germida, J.J., (1997) Phosphate Solubilizing Rhizobacteria Enhance the Growth and Yield but not Phosphorous Uptake on Canola (*Brassica napus L.*). Biology and Fertility of Soils, **24**, (4) 358-364, ISSN 1432-0789
- ✓ De Gelder, L., Ponciano, J. M., Joyce, P., and Top, E. M. (2007). Stability of a promiscuous plasmid in different hosts: no guarantee for a long-term relationship. *Microbiology*, **153**(2), 452-463.
- ✓ De Maeseneire, S. L., De Mey, M., Vandedrinck, S., Vandamme, E. J. (2006) Metabolic characterization of *E. coli* citrate synthase and phosphoenolpyruvate carboxylase mutants in aerobic cultures. Biotechnol. Lett. **28**(23), 1945-1953
- ✓ de Souza, R., Beneduzi, A., Ambrosini, A., da Costa, P. B., Meyer, J., Vargas, L. K., ... and Passaglia, L. M. (2013). The effect of plant growth-promoting rhizobacteria on the growth of rice (*Oryza sativa L.*) cropped in southern Brazilian fields. *Plant and Soil*, 1-19.
- ✓ Delaunay, S., Uy, D., Baucher, M. F., Engasser, J. M., Guyonvarch, A. and Goergen, J. L. (1999) Importance of phosphoenolpyruvate carboxylase of *Corynebacterium glutamicum* during the temperature triggered glutamic acid fermentation. Metab. Eng. **1**, 334-343

- ✓ Delhaize, E., Ryan, P. R., Hebb, D. M., Yamamoto, Y., Sasaki, T., and Matsumoto, H. (2004). Engineering high-level aluminum tolerance in barley with the ALMT1 gene. *Proceedings of the National Academy of Sciences of the United States of America*, **101**(42), 15249-15254.
- ✓ Deshwal, V.K., Dubey, R.C., and Maheshwari, D.K., (2003) Isolation of plant-growth promoting strains of *Bradyrhizobium (Arachis)* sp. with biocontrol potential against *Macrophomina phaseolina* causing charcoal rot of peanut. *Curr Sci.* **84**, 443–448
- ✓ Deubel, A.; Gransee, A. and Merbach, W. (2000). Transformation of Organic Rhizodeposits by Rhizoplane Bacteria and its Influence on the Availability of Tertiary Calcium Phosphate. *Journal of Plant Nutrition and Soil Science*, **163**, (4),387-392, ISSN 1436-8730
- ✓ Dey, R., Pal, K. K., Bhatt, D. M., and Chauhan, S. M. (2004). Growth promotion and yield enhancement of peanut (*Arachis hypogaea L.*) by application of plant growth-promoting rhizobacteria. *Microbiological Research*, **159**(4), 371-394.
- Dhamankar, H. and Prather, K. L. J. (2011). Microbial chemical factories: recent advances in pathway engineering for synthesis of value added chemicals. *Current Opinion in Structural Biology* **21**, 488–494.
- ✓ Dharmatilake AJ, Bauer WD (1992) Chemotaxis of *Rhizobium meliloti* towards nodulation geneinducing compounds from alfalfa roots. *Appl Environ Microbiol* **58**:1153–1158
- ✓ Diaz-Perez, A. L., Roman-Doval, C., Diaz-Perez, C., Cervantes, C., Sosa-Aguirre, C. R., Lopez-Meza, J. E. and Campos-Garc, J. (2007) Identification of the *aceA* gene encoding isocitrate lyase required for the growth of *Pseudomonas aeruginosa* on acetate, acyclic terpenes and leucine. *FEMS Microbiol. Lett.* **269**, 309-316
- Diaz-Ricci, J. C., Regan, L. and Bailey, J. E. (1991) Effect of alteration of the acetic acid synthesis pathway on the fermentation pattern of *Escherichia coli*. *Biotechnol. Bioeng.* **38**, 1318–1324

- ✓ **Dimkpa, C., Weinand, T., and Asch, F. (2009).** Plant–rhizobacteria interactions alleviate abiotic stress conditions. *Plant, cell and environment*, **32**(12), 1682–1694.
- ✓ **Dimroth, P. (1987).** Sodium Ion Transport Decarboxylases and Other Aspects of Sodium Ion Cycling in Bacteria. *Microbiology* **51**, 320–340.
- ✓ **Dimroth, P., and Thomer, A. (1986).** Citrate transport in Klebsiella pneumoniae. *Biological Chemistry Hoppe-Seyler*, **367**(2), 813–824.
- ✓ **Dittrich, C. R., Bennett, G. N. and San, K. Y. (2005)** Characterization of the acetate producing pathways in *Escherichia coli*. *Biotechnol. Prog.* **21**(4), 1062–1067
- ✓ **Dixon, G. H. and Kornberg, H. L. (1959)** Assay methods for key enzymes of the glyoxylate cycle. *Proc. Biochem. Soc.*, 3P
- ✓ **Donald, L. J., Molgat, G. F. and Duckworth, H. W. (1989)** Cloning, sequencing, and expression of the gene for NADH-sensitive citrate synthase of *Pseudomonas aeruginosa*. *J. Bacteriol.* **171**(10), 5542–5550
- ✓ **Dubey, R., and Olenyuk, B. (2010).** Direct organocatalytic coupling of carboxylated piperazine-2, 5-diones with indoles through conjugate addition of carbon nucleophiles to indolenine intermediates. *Tetrahedron letters*, **51**(4), 609–612.
- ✓ **Duckworth, H. W., and Tong, E. K. (1976).** The binding of reduced nicotinamide adenine dinucleotide to citrate synthase of *Escherichia coli* K12. *Biochemistry*, **15**(1), 108–114.
- ✓ **Duncan, M. J., and Fraenkel, D. G. (1979).** alpha-Ketoglutarate dehydrogenase mutant of *Rhizobium meliloti*. *Journal of bacteriology*, **137**(1), 415–419.
- ✓ **Dunn Michael F (1998).** Tricarboxylic acid cycle and anaplerotic enzymes in rhizobia. *FEMS Microbiology Reviews* **22** 105–123.
- ✓ **Dunn, M. F. (1998).** Tricarboxylic acid cycle and anaplerotic enzymes in rhizobia. *FEMS microbiology reviews*, **22**(2), 105–123.

- ✓ Dunn, M. F., G. Araiza, and T. M. Finan. 2001. Cloning and characterization of the pyruvate carboxylase from *Sinorhizobium meliloti* Rm1021. *Arch. Microbiol.* **176**:355–363.
- DuTeau, N. M., Palmer, R. G., and Atherly, A. G. (1986). Fast-growing Rhizobium fredii are poor nitrogen-fixing symbionts of soybean. *Crop science*, **26**(5), 884-889.
- ✓ Duttta, S., and Podile, A. R. (2010). Plant growth promoting rhizobacteria (PGPR): the bugs to debug the root zone. *Critical reviews in microbiology*, **36**(3), 232-244.
- ✓ Eisenberg, R. C. and Dobrogosz, W. J. (1967) Gluconate metabolism in *Escherichia coli*. *J.Bacteriol.* **93**, 941-949
- ✓ Elbahloul, Y. and Steinbüchel, A. (2006) Engineering the genotype of *Acinetobacter* sp.strain ADP1 to enhance biosynthesis of cyanophycin. *Appl. Environ. Microbiol.* **72**(2),1410-1419
- ✓ Elkoca, E., Kantar, F., Sahin F (2008) Influence of nitrogen fixing and phosphorus solubilising bacteria on the nodulation, plant growth, and yield of chickpea. *J Plant Nutr* **31**,157–171
- ✓ Erman, M., Yildirim, B., Togay, N., and Cig, F. (2009). Effect of phosphorus application and Rhizobium inoculation on the yield, nodulation and nutrient uptake in field pea (*Pisum sativum* sp. *arvense* L.). *Journal of Animal and Veterinary Advances*, **8**(2), 301-304.
- ✓ Ezawa, T., S. E. Smith and F. A. Smith., (2002) P metabolism and transport in AM fungi. *Plant Soil* **244**:221-230
- ✓ Farmer, W. R. and Liao, J. C. (1997) Reduction of aerobic acetate production by *Escherichia coli*. *Appl. Environ. Microbiol.* **63**(8), 3205–3210
- ✓ Farmer, W. R. and Liao, J. C. (1997) Reduction of aerobic acetate production by *Escherichia coli*. *Appl. Environ. Microbiol.* **63**(8), 3205–3210

- Figueiredo, M. D. V. B., Seldin, L., de Araujo, F. F., and Mariano, R. D. L. R. (2011). Plant growth promoting rhizobacteria: fundamentals and applications. In *Plant growth and health promoting bacteria* 21-43. Springer Berlin Heidelberg.
- ✓ Fischer, E. and Sauer, U. (2003a) A novel metabolic cycle catalyzes glucose oxidation and anaplerosis in hungry *Escherichia coli*. *J. Biol. Chem.* **278**, 46446–46451
- ✓ Fischer, E., and U. Sauer. (2003b). Metabolic flux profiling of *Escherichia coli* mutants in central carbon metabolism using GC-MS. *Eur. J. Biochem.* **270**:880–891.
- ✓ Fischer, E., N. Zamboni, and U. Sauer. (2004). High-throughput metabolic flux analysis based on gas chromatography-mass spectrometry derived ¹³C constraints. *Anal. Biochem.* **325**:308–316.
- ✓ Flores, N., Xiao, J., Berry, A., Bolivar, F. and Valle, F. (1996) Pathway engineering for the production of aromatic compounds in *Escherichia coli*. *Nat. Biotechnol.* **14**(5), 620-623
- ✓ Fougère, F., Le Rudulier, D., and Streeter, J. G. (1991). Effects of salt stress on amino acid, organic acid, and carbohydrate composition of roots, bacteroids, and cytosol of alfalfa (*Medicago sativa* L.). *Plant physiology*, **96**(4), 1228-1236.
- ✓ Francois J, A., Courtney, M., Starks, Sasitorn, Sivanuntakorn, Hong, Jiang, Aaron, E. Ransome, Jeong-Won, Nam., Charles Z., Constantine, T. and Joseph Kappock (2006), Structure of a NADH-Insensitive Hexameric Citrate Synthase that Resists Acid Inactivation *Biochemistry* **45**, 13487-13499.
- Frank B (1889) Ueber die Pilzsymbiose der Leguminosen. *Bet Dtsch Bot Ges* **7**:332–346
- ✓ Fraysse, N., Couderc, F., and Poinsot, V. (2003). Surface polysaccharide involvement in establishing the Rhizobium-legume symbiosis. *European Journal of Biochemistry*, **270**(7), 1365-1380.

- ✓ Frey, A. D., and Kallio, P. T. (2003). Bacterial hemoglobins and flavohemoglobins: versatile proteins and their impact on microbiology and biotechnology. *FEMS microbiology reviews*, **27**(4), 525-545.
- ✓ Fuhrer, T., Fischer, E. and Sauer, U. (2005) Experimental identification and quantification of glucose metabolism in seven bacterial species. *J. Bacteriol.* **187**, 1581-1590
- ✓ Fujishige, N. A., Kapadia, N. N., De Hoff, P. and Hirsch, A. M. (2006). Investigations of Rhizobium biofilm formation. *FEMS microbiology ecology*, **56**(2), 195-206.
- ✓ Furukawa, J., Yamaji, N., Wang, H., Mitani, N., Murata, Y., Sato, K., and Ma, J. F. (2007). An aluminum-activated citrate transporter in barley. *Plant and Cell Physiology*, **48**(8), 1081-1091.
- ✓ Gadd, G. M. (1999) Fungal production of citric acid and oxalic; Importance in metal speciation, physiology and biogeochemical processes. *Adv Microb Physiol.* **41**: 47-92
- Gage DJ (2002) Analysis of infection thread development using GFP- and DsRed-expressing Sinorhizobium meliloti. *J Bacteriol* **184**: 7042–7046
- ✓ Gaind, S., Pandey, A. K., and Lata. (2006). Microbial biomass, P-nutrition, and enzymatic activities of wheat soil in response to phosphorus enriched organic and inorganic manures. *Journal of Environmental Science and Health Part B*, **41**(2), 177-187.
- ✓ Gallmetzer, M. and Burgstaller, W. (2001). Citrate efflux in glucoselimited and glucose-sufficient chemostat culture of *Penicillium simplicissimum*. *Antonie van Leeuwenhoek* **79**, 81–87.
- ✓ Garcí'a-Fraile P., Carro, L., Robledo M., Fernández M., Mateos P., Rivas R., Igual J., Peix A., Vela'zquez E.,(2012) Rhizobium Promotes Non-Legumes Growth and Quality in Several Production Steps: Towards a Biofertilization of Edible Raw Vegetables Healthy for Humans. *PLOS One.* **7**, (5)

- ✓ Gardiol, A., Arias, A., Cervenansky, C., and Martinez-Drets, G. (1982). Succinate dehydrogenase mutant of Rhizobium meliloti. *Journal of bacteriology*, **151**(3), 1621-1623.
- ✓ Garnak, M. and Reeves, H. C. (1979) Purification and properties of phosphorylated isocitrate dehydrogenase of *Escherichia coli*. *J. Biol. Chem.* **254**, 7915-7920
- ✓ Gentili, F., and Huss-Danell, K. (2003). Local and systemic effects of phosphorus and nitrogen on nodulation and nodule function in *Alnus incana*. *Journal of Experimental Botany*, **54**(393), 2757-2767.
- ✓ Gerstmeir, R., Wendisch, V. F., Schnicke, S., Ruan, H., Farwick, M., Reinscheid, D. and Eikmanns, B. J. (2003) Acetate metabolism and its regulation in *Corynebacterium glutamicum*. *J. Biotechnol.* **104**(1-3), 99-122
- Giannopolitis, C. N., and Ries, S. K. (1977). Superoxide dismutases I. Occurrence in higher plants. *Plant physiology*, **59**(2), 309-314.
- ✓ Gibson KE, Kobayashi H, Walker GC. 2008. Molecular determinants of a symbiotic chronic infection. *Annu. Rev. Genet.* **42**:413–41
- ✓ Glick, B. R. (1995a). Metabolic load and heterologous gene expression. *Biotechnology advances*, **13**(2), 247-261.
- ✓ Glick, B. R. (1995b). The enhancement of plant growth by free-living bacteria. *Canadian Journal of Microbiology*, **41**(2), 109-117.
- ✓ Glick, B. R., Penrose, D. M., and Li, J. (1998). A model for the lowering of plant ethylene concentrations by plant growth-promoting bacteria. *Journal of Theoretical Biology*, **190**(1), 63-68.
- ✓ Glick, B. R., Li, J., Shah, S., Penrose, D. M., and Moffatt, B. A. (1999). ACC Deaminase is Central to the Functioning of Plant Growth Promoting Rhizobacteria. In *Biology and Biotechnology of the Plant Hormone Ethylene II* 293-298. Springer Netherlands.

- ✓ Goel, A. K., Sindhu, S. S., and Dadarwal, K. R. (1999). Bacteriocin-producing native rhizobia of green gram (*Vigna radiata*) having competitive advantage in nodule occupancy. *Microbiological research*, **154**(1), 43-48.
- ✓ Gokarn, R. R., Eiteman, M. A. and Altman, E. (1998) Expression of pyruvate carboxylase enhances succinate production in *Escherichia coli* without affecting glucose uptake. *Biotechnol. Lett.* **20**, 795–798
- ✓ Gokarn, R. R., Eiteman, M. A. and Altman, E. (2000) Metabolic analysis of *Escherichia coli* in the presence and absence of the carboxylating enzymes phosphoenolpyruvate carboxylase and pyruvate carboxylase. *Appl. Environ. Microbiol.* **66**, 1844–1850
- ✓ Gokarn, R. R., Evans, J. D., Walker, J. R., Martin, S. A., Eiteman, M. A. and Altman E.(2001) The physiological effects and metabolic alterations caused by the expression of *Rhizobium etli* pyruvate carboxylase in *Escherichia coli*. *Appl. Microbiol. Biotechnol.* **56**(1-2), 188-195
- ✓ Goldstein, A.H. (1995). Recent Progress in Understanding the Molecular Genetics and Biochemistry of Calcium Phosphate Solubilization by Gram-negative Bacteria. *Biological, Agriculture and Horticulture*, **12**,(1), 185-193,ISSN 0144-8765.
- ✓ Gourdon, P., Baucher, M. F., Lindley, N. D. and Guyonvarch, A. (2000) Cloning of the malic enzyme gene from *Corynebacterium glutamicum* and role of the enzyme in lactate metabolism. *Appl. Environ. Microbiol.* **66**(7), 2981-2987
- ✓ Graham MA, Silverstein KA, Cannon SB and VandenBosch KA (2004) Computational identification and characterization of novel genes from legumes. *Plant Physiol* **135**: 1179–1197
- ✓ Green, L. S., Li, Y., Emerich, D. W., Bergersen, F. J., and Day, D. A. (2000). Catabolism of α -ketoglutarate by a sucA mutant of *Bradyrhizobium japonicum*: evidence for an alternative tricarboxylic acid cycle. *Journal of bacteriology*, **182**(10), 2838-2844.

- ✓ **Gringauz, E., K. A. Orle, C. S. Waddell, and N. L. Craig (1988).** Recognition of *Escherichia coli* attTn7 by transposon Tn7: Lack of specific sequence requirements at the point of Tn7 insertion. *J. Bacteriol.* **170**, 2832-2840.
- ✓ **Grüber, M. J., Bradbury, A. J. and Guest, J. R (1997)** Construction and properties of aconitase mutants of *Escherichia coli*. *Microbiol.* **143**(6), 1837-1846
- ✓ **Grzemski, W., Akowski, J. P., and Kahn, M. L. (2005).** Probing the *Sinorhizobium meliloti*-alfalfa symbiosis using temperature-sensitive and impaired-function citrate synthase mutants. *Molecular plant-microbe interactions*, **18**(2), 134-141.
- ✓ **Guerinot, M. L., Meidl, E. J., and Plessner, O. (1990).** Citrate as a siderophore in *Bradyrhizobium japonicum*. *Journal of bacteriology*, **172**(6), 3298-3303.
- ✓ **Gyaneshwar, P., Kumar, G. N., and Parekh, L. J. (1998).** Effect of buffering on the phosphate-solubilizing ability of microorganisms. *World Journal of Microbiology and Biotechnology*, **14**(5), 669-673.
- ✓ **Gyaneshwar, P., Kumar, G. N., Parekh, L. J., and Poole, P. S. (2002).** Role of soil microorganisms in improving P nutrition of plants. *Plant and soil*, **245**(1), 83-93.
- ✓ **Haag AF, Balaban M, Sani M et al. (2011b)** Protection of *Sinorhizobium* against host cysteine-rich antimicrobial peptides is critical for symbiosis. *PLoS Biol* **9**: e1001169
- ✓ **Haag, A. F., Arnold, M. F., Myka, K. K., Kerscher, B., Dall'Angelo, S., Zanda, M., ... and Ferguson, G. P. (2012).** Molecular insights into bacteroid development during Rhizobium-legume symbiosis. *FEMS microbiology reviews*. 1-20.
- ✓ **Haas, D., and Keel, C. (2003).** Regulation of antibiotic production in root-colonizing *Pseudomonas* spp. and relevance for biological control of plant disease. *Annual review of phytopathology*, **41**(1), 117-153.
- ✓ **Halder, A. K. and Chakrabarty, P. K. (1993)** Solubilization of inorganic phosphate by *Rhizobium*. *Folia Microbiol* **38**, 325–330.

- ✓ **Hall, B. G. (1982).** Chromosomal mutation for citrate utilization by *Escherichia coli* K-12. *Journal of bacteriology*, **151**(1), 269-273.
- ✓ **Hamel, R. D. and Appanna, V. D. (2001)** Modulation of TCA cycle enzymes and aluminum stress in *Pseudomonas fluorescens*. *J. Inorg. Biochem.* **87**(1-2), 1-8
- ✓ **Haque, N. A. and Dave, S. R., (2005)** Ecology of phosphate solubilizers in semi-arid agricultural soils. *Indian J Microbiol* **45**, 27–32.
- ✓ **Hardy RWF, Eaglesham ARJ (1995)** Ecology and agricultural applications of nitrogen-fixing systems: overview. In: Tikhonovich IA, Provorov NA, Romanov VI, Newton WE (eds) Nitrogen fixation: fundamentals and applications, Current Plant Science Biotechnology Agriculture. Springer, New York, 619–620
- ✓ **Harvey, P. R., Warren, R. A., and Wakelin, S. (2009).** Potential to improve root access to phosphorus: the role of non-symbiotic microbial inoculants in the rhizosphere. *Crop and Pasture Science*, **60**(2), 144-151.
- ✓ **Hayat, R., Ali, S., Amara, U., Khalid R., Ahmed, I., (2010)** Soil beneficial bacteria and their role in plant growth promotion:a review. *Ann. Microbiol.* **60** (4): 579-598.
- ✓ **Hazen, T.C., Jimenez, L. and Victoria, G.L., (1991)** Comparison of bacteria from deep subsurface sediment and adjacent groundwater. *Microb. Ecol.*, **22**: 293-304.
- ✓ **Hedin, L. O., Brookshire, E. J., Menge, D. N., and Barron, A. R. (2009).** The nitrogen paradox in tropical forest ecosystems. *Annual Review of Ecology, Evolution, and Systematics*, **40**, 613-635.
- ✓ **Hernández-Lucas, I., Pardo, M. A., Segovia, L., Miranda, J. and Martínez-Romero, E. (1995)** *Rhizobium tropici* chromosomal citrate synthase gene. *Appl. Environ. Microbiol.* **61**(11),3992-3997
- Heron, D. S., and Pueppke, S. G. (1984).** Mode of infection, nodulation specificity, and indigenous plasmids of 11 fast-growing *Rhizobium japonicum* strains. *Journal of bacteriology*, **160**(3), 1061-1066.

- ✓ Herridge, D. F., Peoples, M. B., and Boddey, R. M. (2008). Global inputs of biological nitrogen fixation in agricultural systems. *Plant and Soil*, **311**(1-2), 1-18.
- ✓ Hester, K. L., Lehman, J., Najar, F., Song, L., Roe, B. A., MacGregor, C. H., Hager, P. W., Phibbs, P. V. Jr. and Sokatch, J. R. (2000) Crc is involved in catabolite repression control of the bkd operons of *Pseudomonas putida* and *Pseudomonas aeruginosa*. *J. Bacteriol.* **182**, 1144-1149
- ✓ Higa, A. I., Massarini, E., and Cazzulo, J. J. (1978). Purification and some properties of the citrate synthase from a marine *Pseudomonas*. *Canadian journal of microbiology*, **24**(3), 215-221.
- Hood RC, N'Goran KN, Aigner M, Hardarson G (1999) A comparison of direct and indirect ¹⁵N isotope techniques for estimating crop N uptake from organic residues. *Plant Soil* **208**:259–270
- ✓ Houlton, B. Z., Wang, Y. P., Vitousek, P. M., and Field, C. B. (2008). A unifying framework for dinitrogen fixation in the terrestrial biosphere. *Nature*, **454**(7202), 327-330.
- ✓ Hungria, M., and Stacey, G. (1997). Molecular signals exchanged between host plants and rhizobia: basic aspects and potential application in agriculture. *Soil Biology and Biochemistry*, **29**(5), 819-830.
- o6 ~ 1p /
- ✓ Hungria, M., Nogueira, M. A., and Araujo, R. S. (2013). Co-inoculation of soybeans and common beans with rhizobia and azospirilla: strategies to improve sustainability. *Biology and Fertility of Soils*, 1-11.
- ✓ Hwangbo, H., Park, R. D., Kim, Y. W., Rim, Y. S., Park, K. H., Kim, T. H., ... and Kim, K. Y. (2003). 2-ketogluconic acid production and phosphate solubilization by Enterobacter intermedium. *Current Microbiology*, **47**(2), 0087-0092.
- ✓ Imperlini, E., Carmelina, B., Enza, L., Serena, C., Michele, C., Giancarlo, M. and Roberto, D. (2009) Effects of indole-3-acetic acid on *Sinorhizobium meliloti* survival

and on symbiotic nitrogen fixation and stem dry weight production Appl Microbiol Biotechnol **83**:727–738

- ✓ **Irigoyen, J. J., M. Sanchez-Diaz, and D. W. Emerich.** 1990. Carbon metabolism enzymes of *Rhizobium meliloti* cultures and bacteroids and their distribution within alfalfa nodules. Appl. Environ. Microbiol. **56**:2587–2589.
- ✓ **Ishiguro, N., H. Izawa, M. Shinagawa, T. Shimamoto, and T. Tsuchiya.**(1992). Cloning and nucleotide sequence of the gene (*citC*) encoding a citrate carrier from several *Salmonella* serovars. *J. Biol. Chem.* **267**:9559–9564.
- ✓ **Ishijima, S., Katagiri, F., Kodaki, T., Izui, K., Katsuki, H., Nishikawa, K., Nakashima, H. and Ooi, T.** (1985) Comparison of amino acid sequences between phosphoenolpyruvate carboxylases from *Escherichia coli* (allosteric) and *Anacystis nidulans* (non-allosteric): Identification of conserved and variable regions. Biochem. Biophys. Res. Commun. **133**(2),436-441
- ✓ **Jakobsen, I., Chen, B., Munkvold, L., Lundsgaard, T., and ZHU, Y. G.** (2005). Contrasting phosphate acquisition of mycorrhizal fungi with that of root hairs using the root hairless barley mutant. *Plant, Cell and Environment*, **28**(7), 928-938.
- Jebara, M., Aouani, M. E., Payre, H., Drevon, J. J.** (2004) Nodule conductance varied among common bean (*Phaseolus vulgaris*) genotypes under phosphorus deficiency. Journal of Plant Physiology **162**, 309-315.
- ✓ **Jebara, M., Harzalli-Jebara, S., Payré, H., Aouani, M. E., and Drevon, J. J.** (2006). Influence of salinity and abscisic acid on the O₂ uptake by N₂-fixing nodules of common bean. *Biologia plantarum*, **50**(4), 717-721.
- ✓ **Jida, M., and Assefa, F.** (2011). Phenotypic and plant growth promoting characteristics of *Rhizobium leguminosarum* bv. *viciae* from lentil growing areas of Ethiopia. *Afr. J. Microbiol. Res.*, **5**, 4133-4142.
- ✓ **Jin, S. and Sonenshein, A. L.** (1994) Identification of two distinct *Bacillus subtilis* citrate synthase genes. *J. Bacteriol.* **176**(15), 4669-4679

- Jin, S. and Sonenshein, A. L. (1996) Characterization of the major citrate synthase of *Bacillus subtilis*. *J. Bacteriol.* **178**(12), 3658-3660
- Jones, D. L., and Oburger, E. (2011). Solubilization of phosphorus by soil microorganisms. In *Phosphorus in Action* (pp. 169-198). Springer Berlin Heidelberg
- Kabir, M. M., and Shimizu, K. (2003). Fermentation characteristics and protein expression patterns in a recombinant *Escherichia coli* mutant lacking phosphoglucose isomerase for poly (3-hydroxybutyrate) production. *Applied microbiology and biotechnology*, **62**(2-3), 244-255
- ✓Kabir, M. M. and Shimizu, K. (2004) Metabolic regulation analysis of *icd*-gene knockout *Escherichia coli* based on 2D electrophoresis with MALDI-TOF mass spectrometry and enzyme activity measurements. *Appl. Microbiol. Biotechnol.* **65**(1), 84-96
- Kai, Y., Matsumura, H., Inoue, T., Terada, K., Nagara, Y., Yoshinaga, T., Kihara, A., Tsumura, K. and Izui, K. (1999) Three-dimensional structure of phosphoenolpyruvatecarboxylase: A proposed mechanism for allosteric inhibition. *Proc. Natl. Acad. Sci. U S A.* **96**(3), 823-828
- ✓Karaman, M. R., Şahin, S., Düzdemir, O., and Kandemir, N. (2013). Selection of chickpea cultivars with agronomic phosphorus (P) utilization characters as influenced by Rhizobium inoculation. *Scientific Research and Essays*, **8**(17), 676-681.
- ✓Kästner, C. N. and Dimroth, P. (2000). The Na⁺-dependent citrate carrier of *Klebsiella pneumoniae*: high-level expression and site-directed mutagenesis of asparagine-185 and glutamate-194. *67-73*.
- ✓Katagiri, F., Kodaki, T., Fujita, N., Izui, K., Katsuki, H. (1985) Nucleotide sequence of the phosphoenolpyruvate carboxylase gene of the cyanobacterium *Anacystis nidulans*. *Gene* **38**(1-3), 265-269
- Kaymak, H. C. (2011). Potential of PGPR in agricultural innovations. In *Plant Growth and Health Promoting Bacteria* (45-79). Springer Berlin Heidelberg.

- ✓ Keyser, H. H., Bohlool, B. B., Hu, T. S., and Weber, D. F. (1982). Fast-growing rhizobia isolated from root nodules of soybean. *Science*, 215(4540), 1631-1632.
- ✓ Khan, M. S., Zaidi A. and Wani, P. A., (2007) Role of phosphate-solubilizing microorganisms in sustainable agriculture - A review. *Agronomy for Sustainable Development*. 27, 29-43. ISSN 1774-0746
- ✓ Khan, M. S., Zaidi, A., Wani, P. A., Ahemad, M., and Oves, M. (2009). Functional diversity among plant growth-promoting rhizobacteria: current status. In *Microbial Strategies for Crop Improvement* (. 105-132). Springer Berlin Heidelberg.
- ✓ Khan, A.A., Jilani G., Akhtar,M. S., Saqlan, S. M., Rasheed, N. M.,(2009) Phosphorus Solubilizing Bacteria: Occurrence, Mechanisms and their Role in Crop Production.J. Agric. Biol. Sci., 1, (1) 48-58.
- ✓ Khan, K. S., and Joergensen, R. G., (2009) Changes in microbial biomass and P fractions in biogenic household waste compost amended with inorganic P fertilizers. *Bioresource Technology*.100, 303-309.
- ✓ Khan, M. S., Zaidi, A., Ahemad, M., Oves, M., and Wani, P. A. (2010). Plant growth promotion by phosphate solubilizing fungi-current perspective. *Archives of Agronomy and Soil Science*, 56(1), 73-98.
- ✓ Khurana, A. S., and Sharma, P. (2002). Interaction of captaf and Rhizobium inoculation in chickpea {cicer arietinum (L.)}. *Legume Research-An International Journal*, 25(4), 282-283.
- ✓ Kiefer, P., Heinzle, E. Zelder, O. and Wittmann, C. (2004) Comparative metabolic fluxanalysis of lysine-producing *Corynebacterium glutamicum* cultured on glucose or fructose. *Appl. Environ. Microbiol.* 70(1), 229–239
- Kim, I. K., Roldão, A., Siewers, V., and Nielsen, J. (2012). A systems- level approach for metabolic engineering of yeast cell factories. *FEMS yeast research*, 12(2), 228-248.
- ✓ Kim, K. Y., Jordan, D. and Krishnan, H. B. (1998) Expression of genes from *Rahnella*

aquatilis that are necessary for mineral phosphate solubilization in *Escherichia coli*. FEMS Microbiol. Lett., **159**(1), 121-127

- ✓ Kleinman PJA, Wolf AM, Sharpley AN, Beegle DB, Saporito LS (2005) Survey of water-extractable phosphorus in livestock manures. Soil Sci Soc Am J **69**:701–708
- ✓ Klein-Marcuschamer, D., et al., 2007. Engineering microbial cell factories for biosynthesis of isoprenoid molecules: beyond lycopene. Trends Biotechnol. **25**, 417–424.
- Klopper, J.W., Leong, J., Teintze, M. and Scroth, M.N., (1980) Enhanced plant growth by siderophores produced by plant growth-promoting rhizobacteria, *Nature* **286**, 885-886.
- ✓ Klopper, J. W., Tuzun, S., Liu, L., and Wei, G. (1993). Plant growth-promoting rhizobacteria as inducers of systemic disease resistance. *Pest Management: Biologically Based Technologies*, 156-165.
- ✓ Klopper, J. W., Gutierrez-Estrada, A., and McInroy, J. A. (2007). Photoperiod regulates elicitation of growth promotion but not induced resistance by plant growth-promoting rhizobacteria. *Canadian journal of microbiology*, **53**(2), 159-167
- ✓ Kobayashi H, Sunako M, Hayashi M and Murooka Y (2001) DNA synthesis and fragmentation in bacteroids during Astragalus sinicus root nodule development. Biosci Biotechnol Biochem **65**: 510–515.
- ✓ Koch, B., Jensen, L. E. and Nybroe, O. (2001). A panel of Tn7-based vectors for insertion of the gfp marker gene or for delivery of cloned DNA into Gram-negative bacteria at a neutral chromosomal site. *Journal of Microbiological Methods*.
- Koch, B., Worm, J., Jensen, L. E., Hojberg, O. and Nybroe, O. (2001) Carbon limitation induces σS-dependent gene expression in *Pseudomonas fluorescens* in soil. Appl. Environ. Microbiol. **67**: 3363-3370.
- ✓ Kodaki, T., Katagiri, F., Asano, M., Izui, K. and Katsuki, H. (1985) Cloning of phosphoenolpyruvate carboxylase gene from a cyanobacterium, *Anacystis nidulans*, in

- Escherichia coli.* J. Biochem. 97, 533-539
- ✓ **Koffas, M. A., Jung, G. Y., Aon, J. C. and Stephanopoulos, G. (2002)** Effect of pyruvate carboxylase overexpression on the physiology of *Corynebacterium glutamicum*. Appl. Environ. Microbiol. 68(11), 5422-5428
- ✓ **Konings, W. N., J. S. Lolkema and B. Poolman. (1995)**. The generation of metabolic energy by solute transport. Arch. Microbiol. 164, 235–242.
- Korenromp, E.L., Williams, B.G., Gouws, E., Dye, C. and Snow, R.W.(2003).** Measurement of trends in childhood malaria mortality in Africa: an assessment of progress toward targets based on verbal autopsy. Lancet Infect. Dis. 3, 349–358
- Kovach, M. E., Elzer, P. H., Hill, D. S. Robertson, G. T., Farris, M. A., Roop, R. M. II and Peterson, K. M. (1995)** Four new derivatives of the broad-host-range cloning vector pBBR1MCS, carrying different antibiotic-resistance cassettes. Gene, 166: 175-176.
- ✓ **Koyama, H., Kawamura, A., Kihara, T., Hara, T., Takita, E. and Shibata D. (2000)** Overexpression of mitochondrial citrate synthase in *Arabidopsis thaliana* improved growth on a phosphorus-limited soil. Plant Cell. Physiol. 41(9), 1030-1037
- ✓ **Kramer, M., Bongaerts, J., Bovenberg, R., Kremer, S., Müller, U., Orf, S., Wubbolts, M. and Raeven, L. (2003)** Metabolic engineering for microbial production of shikimic acid. Metab. Eng. 5(4), 277-283
- ✓ **Krishnan, H. B., Kim, W. S., Sun-Hyung, J., Kim, K. Y., and Jiang, G. (2003).** Citrate synthase mutants of *Sinorhizobium fredii* USDA257 form ineffective nodules with aberrant ultrastructure. Applied and environmental microbiology, 69(6), 3561-3568.
- ✓ **Kucey, R. M. N., Jansen, H. H. and Leggett, M. E. (1989)** Microbially mediated increases in plant-available phosphorus. Adv. Agron. 42, 199–228
- ✓ **Lakshmi, T. M., and Helling, R. B. (1976).** Selection for citrate synthase deficiency in *lac* mutants of *Escherichia coli*. Journal of bacteriology, (1), 76-83.

Lambertsen, L., Sternberg, C. and Molin, S. (2004). Mini-Tn7 transposons for site-specific tagging of bacteria with fluorescent proteins. *Environmental microbiology* 6, 726-32.

Large, P. J., Peel, D. and Quayle, J. R. (1962) Microbial growth on C(1) compounds. 4. Carboxylation of phosphoenolpyruvate in methanol-grown *Pseudomonas* AM1. *Biochem.J.* 85(1), 243-250

Legiša, M., and Mattey, M. (2007). Changes in primary metabolism leading to citric acid overflow in *Aspergillus niger*. *Biotechnology letters*, 29(2), 181-190.

Lessard, P. (1996) Metabolic engineering, the concept coalesces. *Nature Biotechnol.* 14, 1654-1655

Lessie, T. G. and Phibbs, P. V. Jr. (1984) Alternative pathways of carbohydrate utilization in pseudomonads. *Annu. Rev. Microbiol.* 38, 359–388

Li, H. and Pajor, a M. (2002). Functional characterization of CitM, the Mg²⁺-citrate transporter. *The Journal of membrane biology* 185, 9-16.

Liao, J. C., Chao, Y. P. and Patnaik, R. (1994) Alteration of the biochemical valves in the central metabolism of *Escherichia coli*. *Ann. N. Y. Acad. Sci.* 745, 21-34

Lichtenstein, C. and S. Brenner (1981). Site-specific properties of Tn7 transposition into the *E. coli* chromosome. *Mol. Gen. Genet.* 183 , 380-387.

Lolkema, J. S. (2006). Domain structure and pore loops in the 2-hydroxycarboxylate transporter family. *Journal of molecular microbiology and biotechnology*, 11(6), 318-325.

Lolkema, J. S., H. Enquist, and M. E. van der Rest. (1994). Transport of citrate catalyzed by the sodium-dependent citrate carrier of *Klebsiella pneumonia* is obligatory coupled to the transport of two sodium ions. *Eur.J. Biochem.* 220, 469–475.

- ✓ **López-Arredondo, DL., Herrera-Estrella, L., (2012)** Engineering phosphorus metabolism in plants to produce a dual fertilization and weed control system. *Nature Biotechnology* **30**, 889–893.
- ✓ **Lopez-Bucio, J., Nieto-Jacobo, M. F., Ramirez-Rodriguez, V., and Herrera-Estrella, L. (2000)**. Organic acid metabolism in plants: from adaptive physiology to transgenic varieties for cultivation in extreme soils. *Plant Science*, **160**(1), 1-13.
- ✓ **Lowry O.H., Rosenbrough N.J., Farr A.L., Randall R.J. (1951)** Protein measurement with folin-phenol reagent. *J. Biol. Chem.*, **193**: 265–275.
- ✓ **Lugtenberg, B. J., Dekkers, L., and Bloemberg, G. V. (2001)**. Molecular determinants of rhizosphere colonization by Pseudomonas. *Annual review of phytopathology*, **39**(1), 461-490.
- ✓ **Luinenburg, I. and Coleman, J. R. (1993)** Expression of *Escherichia coli* phosphoenolpyruvate carboxylase in a cyanobacterium. Functional complementation of *Synechococcus* PCC 7942 ppc. *Plant Physiol.* **101**(1), 121-126
- ✓ **Mabrouk, Y., and Belhadj, O. (2010)**. The potential use of *Rhizobium*-legume symbiosis for enhancing plant growth and management of plant diseases, In: *Microbes for Legume Improvement*, Khan, MS., Zaidi, A., and Musarrat, J. (Eds.), 495-514,
- ✓ **Mahatma, M. K., Bhatnagar, R., Mittal, G. K., and Mahatma, L. (2011)**. Antioxidant metabolism in pearl millet genotypes during compatible and incompatible interaction with downy mildew pathogen. *Archives of Phytopathology and Plant Protection*, **44**(9), 911-924.
- ✓ **Mailloux, R. J., Lemire, J., Kalyuzhnyi, S., and Appanna, V. (2008)**. A novel metabolic network leads to enhanced citrate biogenesis in *Pseudomonas fluorescens* exposed to aluminum toxicity. *Extremophiles*, **12**(3), 451-459.
- ✓ **Maksimov, I. V., Abizgil'dina, R. R., and Pusenkova, L. I. (2011)**. Plant growth promoting rhizobacteria as alternative to chemical crop protectors from pathogens (review). *Applied Biochemistry and Microbiology*, **47**(4), 333-345.

- ✓ **Manna, M. C., Ghosh, P. K., Ghosh, B. N., and Singh, K. N. (2001).** Comparative effectiveness of phosphate-enriched compost and single superphosphate on yield, uptake of nutrients and soil quality under soybean-wheat rotation. *JOURNAL OF AGRICULTURAL SCIENCE-CAMBRIDGE-*, 137(1), 45-54.
- ✓ **March, J. C., Eiteman, M. A. and Altman, E. (2002)** Expression of an anaplerotic enzyme, pyruvate carboxylase, improves recombinant protein production in *Escherichia coli*. *Appl. Environ. Microbiol.* 68(11), 5620–5624
- ▷ **Marek-Kozaczuk, M., and Skorupska, A. (2001).** Production of B-group vitamins by plant growth-promoting *Pseudomonas fluorescens* strain 267 and the importance of vitamins in the colonization and nodulation of red clover. *Biology and fertility of soils*, 33(2), 146-151.
- ✓ **Marinkovic, J., Dordevic, V., Svetlana, (2013)** Osmotic stress tolerance, PGP traits and RAPD analysis of *Bradyrhizobium Japonicum* strains. *45*, (1),75-86.
- ✓ **Marshall, B., Stintzi, A., Gilmour, C., Meyer, J. M., and Poole, K. (2009).** Citrate-mediated iron uptake in *Pseudomonas aeruginosa*: involvement of the citrate-inducible FecA receptor and the FeoB ferrous iron transporter. *Microbiology*, 155(1), 305-315.
- ✓ **Martin, C. H, Nielsen, D. R., Solomon, K. V. and Prather, K. L. J. (2009).** Synthetic metabolism: engineering biology at the protein and pathway scales. *Chem Biol* 16:277.
- Martínez-Viveros, O., Jorquera, M. A., Crowley, D. E., Gajardo, G., and Mora, M. L. (2010).** Mechanisms and practical considerations involved in plant growth promotion by rhizobacteria. *Journal of soil science and plant nutrition*, 10(3), 293-319.
- ✓ **Marty-Teysset, C., C. Posthuma, J. S. Lolkema, P. Schmitt, C. Divies, and W. N. Konings. (1996).** Proton motive force generation by citrolactic fermentation in *Leuconostoc esenteroides*. *J. Bacteriol.* 178, 2178–2185.
- ✓ **Massarini, E., Higa, A. I., and Cazzulo, J. J. (1976).** Regulatory properties of the citrate synthase from *Rhodospirillum rubrum*. *Experientia*, 32(4), 426-428.

- ✓ **Mathur, T., Singhal, S., Khan, S., Upadhyay, U.P., Fatma, F. and Rattan, A., (2006)** Detection of biofilm formation among the clinical isolates of staphylococci: an evaluation of three different screening methods. Indian Journal of Medical Microbiology **24** (1):25-29.
- ✓ **Matsuno, K., Blais, T., Serio, A. W., Conway, T., Henkin, T. M., and Sonenshein, A. L. (1999).** Metabolic imbalance and sporulation in an isocitrate dehydrogenase mutant of *Bacillus subtilis*. *Journal of bacteriology*, **181**(11), 3382-3391.
- Matsushita, K. and Ameyama, M. (1982)** D-glucose-dehydrogenase from *Pseudomonas fluorescens*, membrane bound. Methods Enzymol. **89**: 149-154.
- ✓ **Maurus, R., Nguyen, N. T., Stokell, D. J., Ayed, A., Hultin, P. G., Duckworth, H. W., and Brayer, G. D. (2003).** Insights into the evolution of allosteric properties. The NADH binding site of hexameric type II citrate synthases. *Biochemistry*, **42**(19), 5555-5565.
- ✓ **McDermott, T. R., and Kahn, M. L. (1992).** Cloning and mutagenesis of the *Rhizobium meliloti* isocitrate dehydrogenase gene. *Journal of bacteriology*, **174**(14), 4790-4797.
- McKenzie G.J, Craig N.L., (2006)** Fast, easy and efficient: site-specific insertion of transgenes into enterobacterial chromosomes using Tn7 without need for selection of the insertion event. *BMC Microbiol.* **6**:39-46
- ✓ **Mehboob, I., Naveed, M., Zahir, A. Z., 2009.** Rhizobial association with non-legumes: mechanisms and applications. *Crit. Rev. Plant Sci.* **28**, 432–456.
- ✓ **Mergaert P, Uchiumi T, Alunni B et al. (2006)** Eukaryotic control on bacterial cell cycle and differentiation in the *Rhizobium*-legume symbiosis. *P Natl Acad Sci USA* **103**:5230–5235.
- ✓ **Messele, B., and Pant, L. M. (2012).** Effects of Inoculation of *Sinorhizobium ciceri* and Phosphate Solubilizing Bacteria on Nodulation, Yield and Nitrogen and Phosphorus Uptake of Chickpea (*Cicer arietinum* L.) in Shoa Robit Area. *J Biofertil Biopestici* **3**: 129.

- ✓ **Mia, M. A., Shamsuddin, Z. H. (2010)** Rhizobium as a crop enhancer and biofertilizer for increased cereal production. *Afr J Biotechnol.* **9**, 6001–6009.
- ✓ **Millard, C. S., Chao, Y.-P., Liao, J. C. and Donnelly, M. I. (1996)** Enhanced production of succinic acid by overexpression of phosphoenolpyruvate carboxylase in *Escherichia coli*. *Appl. Environ. Microbiol.* **62**, 1818-1810
- ✓ **Millay, R. H. Jr., Schilling, H. and Hersh, L. B. (1978)** The reduced nicotinamide adenine nucleotide-activated phosphoenolpyruvate carboxylase from *Pseudomonas MA*. Further studies on regulatory properties. *J. Biol. Chem.* **253**(5), 1371-1377
- ✓ **Mitchell, C. G. (1996)** Identification of a multienzyme complex of the tricarboxylic acid cycle enzymes containing citrate synthase isoenzymes from *Pseudomonas aeruginosa*. *Biochem. J.* **313**(2), 769-774
- ✓ **Mlakar, T. and Legiša, M. (2006)**. Citrate inhibition-resistant form of 6-Phosphofructo-1-Kinase from *Aspergillus niger*. *Appl. Environ. Microbiol.* **72**(7), 4515–4521.
- ✓ **Moghimi, A., Tate, M.E. and Oades, J.M. (1978)** Characterization of rhizosphere products especially 2-ketogluconic acid. *Soil Biol Biochem* **10**, 283–287.
- ✓ **Morel M., Victoria Braña and Susana Castro-Sowinski (2012)**. Legume Crops, Importance and Use of Bacterial Inoculation to Increase Production, *Crop Plant*, Dr Aakash Goyal (Ed.), ISBN: 978-953-51-0527-5,
- ✓ **Morel, M., Bra, N., and Castro-Sowinski, S. (2012)**. Legume Crops, Importance and Use of Bacterial Inoculation to Increase Production. *GOYAL, editor. Crop Plant. INTECH Editorial*, 217-240.
- ✓ **Morikawa, M., Izui, K., Taguchi, M. and Katsuki, H. (1980)** Regulation of *Escherichia coli* phosphoenolpyruvate carboxylase by multiple effectors *in vivo*. *J. Biochem.* **87**, 441-449
- ✓ **Morrissey, J. P., Walsh, U. F., O'Donnell, A., Moënne-Loccoz, Y., and O'Gara, F. (2002)**. Exploitation of genetically modified inoculants for industrial ecology applications. *Antonie Van Leeuwenhoek*, **81**(1-4), 599-606.

- ✓ **Mortimer, M. W., McDermott, T. R., York, G. M., Walker, G. C., and Kahn, M. L. (1999).** Citrate synthase mutants of *Sinorhizobium meliloti* are ineffective and have altered cell surface polysaccharides. *Journal of bacteriology*, **181**(24), 7608-7613.
- ✓ **Nakano, Y., and Asada, K. (1981).** Hydrogen peroxide is scavenged by ascorbate-specific peroxidase in spinach chloroplasts. *Plant and Cell Physiology*, **22**(5), 867-880.
- ✓ **Namvar, A., and Sharifi, R. S. (2011).** Phenological and morphological response of chickpea (*Cicer arietinum* L.) to symbiotic and mineral nitrogen fertilization. *emdir (Agriculture)*, **98**(2), 121-130.
- ✓ **Nannipieri, P., Giagnoni, L., Renella, G., Puglisi, E., Ceccanti, B., Masciandaro, G. and Marinari, S. (2012).** Soil enzymology: classical and molecular approaches. *Biology and Fertility of Soils*, **48**(7), 743-762.
- ✓ **Nascimento, F., Brígido, C., Alho, L., Glick, B. R., and Oliveira, S. (2012).** Enhanced chickpea growth-promotion ability of a Mesorhizobium strain expressing an exogenous ACC deaminase gene. *Plant and soil*, **353**(1-2), 221-230.
- ✓ **Nelson, K. E., et al. (2002).** Complete genome sequence and comparative analysis of the metabolically versatile *Pseudomonas putida* KT2440. *Environ. Microbiol.* **4** (12), 799-808
- ✓ **Netik, A., Torres, N. V., Riol, J.-M. and Kubicek, C. P. (1997).** Uptake and export of citric acid by *Aspergillus niger* is reciprocally regulated by manganese ions. *Biochim Biophys Acta* **1326**, 287–294.
- ✓ **Newaz, S. S. and Hersh, L. B. (1975)** Reduced nicotinamide adenine dinucleotide-activated phosphoenolpyruvate carboxylase in *Pseudomonas* MA: Potential regulation between carbon assimilation and energy production. *J Bacteriol.* **124**, 825-833
- ✓ **Nguyen, N. T., Maurus, R., Stokell, D. J., Ayed, A., Duckworth, H. W. and Brayer, G. D. (2001)** Comparative analysis of folding and substrate binding sites between regulated hexameric type II citrate synthases and unregulated dimeric Type I enzymes. *Biochem.* **40**, 13177-13187

- ✓ O'Brien, R., Chuang D. T., Taylor, B. L. and Utter, M. F. (1977) Novel enzymic machinery for the metabolism of oxalacetate, phosphoenolpyruvate, and pyruvate in *Pseudomonas citronellolis*. *J. Biol. Chem.* **252**, 1257-1263
- ✓ Ogawa, T., Murakami, K., Mori, H., Ishii, N., Tomita, M. and Yoshin, M. (2007) Role of phosphoenolpyruvate in the NADP-isocitrate dehydrogenase and isocitrate lyase reaction in *Escherichia coli*. *J. Bacteriol.* **189**(3), 1176-1178
- ✓ Oldroyd, G. E., Murray, J. D., Poole, P. S., and Downie, J. A. (2011). The rules of engagement in the legume-rhizobial symbiosis. *Annual review of genetics*, **45**, 119-144.
- ✓ Olivera, M., Tejera, N., Iribarne, C., Ocana, A., and Lluch, C. (2004). Growth, nitrogen fixation and ammonium assimilation in common bean (*Phaseolus vulgaris*): effect of phosphorus. *Physiologia Plantarum*, **121**(3), 498-505.
- ✓ Omote, H., Hiasa, M., Matsumoto, T., Otsuka, M., and Moriyama, Y. (2006). The MATE proteins as fundamental transporters of metabolic and xenobiotic organic cations. *Trends in pharmacological sciences*, **27**(11), 587-593.
- ✓ Ow, D. S. W., Lee, D. Y., Yap, M. G. S., and Oh, S. K. W. (2009). Identification of cellular objective for elucidating the physiological state of plasmid-bearing *Escherichia coli* using genome-scale in silico analysis. *Biotechnology progress*, **25**(1), 61-67.
- ✓ Ow, D. S. W., Nissom, P. M., Philp, R., Oh, S. K. W., Yap, M. G. S. (2006). Global transcriptional analysis of metabolic burden due to plasmid maintenance in *Escherichia coli* DH5 during batch fermentation. *Enzyme Microb Technol* **39**, 391–398. doi:10.1016/j.enzmictec.2005.11.048.
- ✓ Paau AS, Oro J and Cowles JR (1979) DNA content of free living rhizobia and bacteroids of various Rhizobium-legume associations. *Plant Physiol* **63**: 402–405.
- ✓ Papagianni, M. (2007) Advances in citric acid fermentation by *Aspergillus niger*: Biochemical aspects, membrane transport and modeling. *Biotechnol. Adv.* **25**(3), 244-263

- ✓ **Pardo, M. A., Lagunez, J., Miranda, J., and Martinez, E. (1994)**. Nodulating ability of *Rhizobium tropici* is conditioned by a plasmid- encoded citrate synthase.*Molecular microbiology*, **11**(2), 315-321.
- ✓ **Park, S.-J., McCabe, J., Turana, J. and Gunsalus, R. P. (1994)**. Regulation of the citrate synthase (*gltA*) gene of *Escherichia coli* in response to anaerobiosis and carbon supply: role of the *arcA* gene product. *J Bacteriol* **176**, 5086–5092.
- ✓ **Patel, D. K., Archana G. and Naresh Kumar G. (2008)** Variation in the nature of organic acid secretion and mineral phosphate solubilization by *Citrobacter* sp. in the presence of different sugars. *Curr. Microbiol.* **56**(2), 168-174
- ✓ **Patnaik, R. and Liao, J. C. (1994)** Engineering of *Escherichia coli* central metabolism for aromatic metabolite production with near theoretical yield. *Appl. Environ. Microbiol.* **60**(11), 3903-3908
- ✓ **Patton, A. J., Hough, D. W., Towner, P. and Danson, M. J. (1993)** Does *Escherichia coli* possess a second citrate synthase gene? *Eur. J. Biochem.* **214**(1), 75-81
- ✓ **Peix, A., Rivas-Boyero, A. A., Mateos P. F., Rodriguez-Barrueco, C., Martinez-Molina, E. and Velazquez, E. (2001)** Growth promotion of chickpea and barley by a phosphate solubilizing strain of *Mesorhizobium mediterraneum* under growth chamber conditions. *Soil Biol Biochem* **33**, (1), 103–110
- ✓ **Peng, L, Arauzo-Bravo, M. J., Shimizu K. (2004)** Metabolic flux analysis for a *ppc* mutant *Escherichia coli* based on ¹³C-labelling experiments together with enzyme activity assays and intracellular metabolite measurements. *FEMS Microbiol. Lett.* **235**(1), 17-23
- Peng, S., Biswas, J.C., Gyaneshwar, P., Chen, Y., (2002)** Influence of rhizobial inoculation on photosynthesis and grain yield of rice. *Agronomy*. **4**, 925–92
- Peters NK, Frost JW, Long SR (1986)** A plant flavone, luteolin, induces expression of *Rhizobium meliloti* nodulation genes. *Science* **233**:977–980
- ✓ **Peters, J. E. and Craig, N. L. (2001)**. Tn7 : Smarter Than we thought. *Cell* **2**, 806-814.

- ✓ Peterson, G. L. (1979) Review of the Folin phenol quantitation method of Lowry, Rosenberg, Farr and Randall. *Anal Biochem* **100**: 201.
- ✓ Petersen, S., de Graaf, A.A., Eggeling, L., Mo"llney, M., Wiechert, W. and Sahm, H. (2000) In vivo quantification of parallel and bidirectional fluxes in the anaplerosis of *Corynebacterium glutamicum*. *J. Biol. Chem.* **275**, 35932–35941
- ✓ Podile, A. R., and Kishore, G. K. (2006). Plant growth-promoting rhizobacteria. In *Plant-associated bacteria* (. 195-230). Springer Netherlands.
- ✓ Porres, J. M., Aranda, P., López-Jurado, M., and Urbano, G. (2003). Effect of natural and controlled fermentation on chemical composition and nutrient dialyzability from beans (*Phaseolus vulgaris* L.). *Journal of agricultural and food chemistry*, **51**(17), 5144-5149.
- ✓ Portais, J. C., Tavernier, P., Besson, I., Courtois, J., Courtois, B., and Barbotin, J. N. (1997). Mechanism of gluconate synthesis in < i> Rhizobium meliloti</i> by using in vivo NMR. *FEBS letters*, **412**(3), 485-489.
- ✓ Portais, J. C., P. Tavernier, I. Gosselin, and J. N. Barbotin. 1999. Cyclic organization of the carbohydrate metabolism in *Sinorhizobium meliloti*. *Eur.J. Biochem.* **265**:473–480.
- ✓ Prather, K. L. J. and Martin, C. H. (2008). De novo biosynthetic pathways:rational design of microbial chemical factories. *Curr Opin Biotechnol* **19**:468.
- ✓ Pueppke, S. G., and Broughton, W. J. (1999). *Rhizobium* sp. strain NGR234 and *R. fredii* USDA257 share exceptionally broad, nested host ranges. *Molecular plant-microbe interactions*, **12**(4), 293-318.
- ✓ Quay, S. C., Friedman, S. B. and Eisenberg, R. C. (1972) Gluconate regulation of glucose catabolism in *Pseudomonas fluorescens*. *J. Bacteriol.* **112**: 291-298.
- ✓ Quispel, A. (1988) Hellriegel and Wilfarth's discovery of (symbiotic) nitrogen fixation one hundred years ago. In: Bothe, H., de Bruijn, F.J., Newton, W.E. (Eds.), Nitrogen Fixation: One Hundred Years After, Gustav Fisher, pp. 3–12.

- Qureshi, M. A., Ahmad, Z. A., Akhtar, N., Iqbal, A., Mujeeb, F., and Shakir, M. A. (2012). Role of Phosphate solubilizing bacteria (PSB) in enhancing P availability and promoting cotton growth. *The Journal of Animal and Plant Sciences*, , 22 (1), 204-210.
- ✓ Raab, A.M., Gebhardt ,G., Bolotina, N., Weuster-Botz, D. and Lang, C.(2010): Metabolic engineering of *Saccharomyces cerevisiae* for the biotechnological production of succinic acid Metab Eng,12:518-525
- ✓ Raghothama, K.G., Muchhal, U.S., Kim, D.H., Bucher, M. (1999) Molecular regulation of plant phosphate transporters. In: Lynch, J. P., Deikman, J. (eds) Phosphorus in plant biology: regulatory roles in molecular, cellular, organismic, and ecosystem processes, American society of plant physiologists, Maryland. 271–280
- ✓ Rajpurohit, Y. S., Gopalakrishnan, R, and Misra, H. S (2008) Involvement of a protein kinase activity inducer in DNA double strand break repair and radioresistance of *Deinococcus radiodurans*. *J. Bacteriol.* 190: 3948–3954
- ✓ Ramos, A., B. Poolman, H. Santos, J. S. Lolkema, and W. N. Konings. (1994). Uniport of anionic citrate and proton consumption in *Leuconostoc oenos*. *J.Bacteriol.* 176:4899–4905.
- ✓ Reed, S. C., Cleveland, C. C., and Townsend, A. R. (2011). Functional ecology of free-living nitrogen fixation: a contemporary perspective. *Annual Review of Ecology, Evolution, and Systematics*, 42, 489-512.
- ✓ Reinscheid, D. J., Eikmanns, B. J. and Sahm, H. (1994) Characterization of the isocitrate lyase gene from *Corynebacterium glutamicum* and biochemical analysis of the enzyme. *J. Bacteriol.* 176(12), 3474-3483
- ✓ Renilla, S., Bernal, V., Fuhrer, T., Castaño-Cerezo, S., Pastor, J. M., Iborra, J. L and Cánovas, M. (2012). Acetate scavenging activity in *Escherichia coli*: interplay of acetyl-CoA synthetase and the PEP-glyoxylate cycle in chemostat cultures. *Applied microbiology and biotechnology*, 93(5), 2109-2124.

- ✓ **Resendis-Antonio, O., Reed, J. L., Encarnación, S., Collado-Vides, J., and Palsson, B. Ø.** (2007). Metabolic reconstruction and modeling of nitrogen fixation in Rhizobium etli. *PLoS computational biology*, **3**(10), e192.
- ✓ **Richardson, A. E., and Simpson, R. J.** (2011). Soil microorganisms mediating phosphorus availability update on microbial phosphorus. *Plant physiology*, **156**(3), 989-996.
- ✓ **Richardson, A. E., Hadobas, P. A., and Hayes, J. E.**, (2000) Acid Phosphomonoesterase and Phytase Activities of Wheat (*Triticum aestivum* L.) Roots and Utilization of Organic Phosphorous Substrates by Seedlings Grown in Sterile Culture. *Plant, Cell and Environment*, **23**, (4), 397-40, ISSN 0140-7791.
- ✓ **Rivas, R., Peix, A., Mateos, P. F., Trujillo, M. E., Martinez-Molina, E., and Velazquez, E.** (2006) Biodiversity of populations of phosphate solubilizing rhizobia that nodulates chickpea in different Spanish soils. *Plant Soil*. **287**, 23–33.
- ✓ **Rodriguez, H., Fraga, R.** (1999). Phosphate solubilizing bacteria and their role in plant growth promotion. *Biotechnology advances*, **17**(4), 319-339.
- ✓ **Rodriguez, H., Fraga, R., Gonzalez, T., and Bashan, Y.** (2006). Genetics of phosphate solubilization and its potential applications for improving plant growth-promoting bacteria. *Plant and soil*, **287**(1-2), 15-21.
- ✓ **Rogers, M., Ekaterinaki, N., Nimmo, E., and Sherratt, D.** (1986). Analysis of Tn7 transposition. *Molecular and General Genetics MGG*, **205**(3), 550-556.
- ✓ **Rohr, M., Kubicek, C. P. and Komínek, J.** (1996) Citric acid. In: Röhr, M. ed. Biotechnology (6). Wiley-VCH. Weinheim, New York, 307-366
- ✓ **Romano, A. H., Eberhard, S. J., Dingle, S. L. and McDowell, T. D.** (1970) Distribution of the phosphoenolpyruvate:glucose phosphotransferase system in bacteria. *J. Bacteriol.* **104**, 808-813.
- ✓ **Ronson, C. W . and Primrose, S. B.** (1979). *J.Gen. Microbial.* **112**:77-88

- ✓ **Roos, W. and Slavik, J. (1987).** Intracellular pH topography of *Penicillium cyclopium* protoplasts. Maintenance of delta pH by both passive and active mechanisms. *Biochim Biophys Acta* **899**, 67–75.
- ✓ **Rosendahl, L., Vance, C. P., and Pedersen, W. B. (1990).** Products of dark CO₂ fixation in pea root nodules support bacteroid metabolism. *Plant Physiology*, **93**(1), 12-19.
- Rowarth JS (1997)** Nutrient and moisture inputs for grass seed yield: an invited review. *J Appl Seed Prod* **15**:103–110
- ✓ **Rozkov, A., Avignone-Rossa, C. A., Ertl, P. F., Jones, P., O'Kennedy, R. D., Smith, J. J and Bushell, M. E. (2004).** Characterization of the metabolic burden on *Escherichia coli* DH1 cells imposed by the presence of a plasmid containing a gene therapy sequence. *Biotechnology and bioengineering*, **88**(7), 909-915.
- ✓ **Rudresh, D. L., Shivaprakash, M. K., and Prasad, R. D. (2005).** Effect of combined application of Rhizobium phosphate solubilizing bacterium and *Trichoderma* spp. on growth, nutrient uptake and yield of chickpea (*Cicer aritenium* L.). *Applied soil ecology*, **28**(2), 139-146.
- ✓ **Ruffing, A. M., and Chen, R. R. (2011).** Citrate stimulates oligosaccharide synthesis in metabolically engineered *Agrobacterium* sp. *Applied biochemistry and biotechnology*, **164**(6), 851-866.
- ✓ **Ruijter, G. J., Panneman, H., Xu, D. and Visser, J. (2000)** Properties of *Aspergillus niger* citrate synthase and effects of citA overexpression on citric acid production. *FEMS Microbiol. Lett.* **184**, 35-40
- ✓ **Ruijter, G. J. G., Kubicek, C. P. and Visser, J. (2002).** Production of organic acids by fungi. In *The Mycotal., Industrial Applications*. Edited by H. D. Osiewacz. Berlin: Springer. **X**, 213–230.
- ✓ **Ryan, J., Ibrikci, H., Delgado, A., Torrent, J., Sommer, R., and Rashid, A. (2012).** Significance of Phosphorus for Agriculture and the Environment in the West Asia and North Africa Region. *Advances in Agronomy*, **114**, 91.

- ✓ **Ryan, P. R., Tyerman, S. D., Sasaki, T., Furuichi, T., Yamamoto, Y., Zhang, W. H. and Delhaize, E. (2011).** The identification of aluminium-resistance genes provides opportunities for enhancing crop production on acid soils. *Journal of experimental botany* **62**, 9-20.
- ✓ **Sánchez, A. M., Bennett, G. N. and San, K. Y. (2005a)** Efficient succinic acid production from glucose through overexpression of pyruvate carboxylase in an *Escherichia coli* alcohol dehydrogenase and lactate dehydrogenase mutant. *Biotechnol Prog*. **21**(2), 358-365
- ✓ **Sánchez-Díaz, M. (2001).** Adaptation of legumes to multiple stresses in Mediterranean-type environments. *Options Mediterr*, **45**, 145-151.
- ✓ **Sánchez, R. and Cejudo, F. J. (2003)** Identification and expression analysis of a gene encoding a bacterial-type phosphoenolpyruvate carboxylase from *Arabidopsis* and Rice. *Plant Physiol*. **132**(2), 949-957
- ✓ **Sauer, U. and Eikmanns, B. J. (2005)** The PEP-pyruvate-oxaloacetate node as the switch point for carbon flux distribution in bacteria. *FEMS Microbiol. Rev.* **29**, 765-794
- ✓ **Schenk, P. M., Carvalhais, L. C., and Kazan, K. (2012).** Unraveling plant-microbe interactions: can multi-species transcriptomics help?. *Trends in biotechnology*, **30**(3), 177-184.
- ✓ **Schmidt-Eisenlohr, H. and Baron, C. (2003).** The competitiveness of *Pseudomonas chlororaphis* carrying pJP4 is reduced in the *Arabidopsis thaliana* rhizosphere. *Appl Environ Microbiol* **69**, 1827-1831. doi:10.1128/AEM.69.3.1827-1831.2003.
- ✓ **Schweizer, H. P. (1991)** Escherichia-Pseudomonas shuttle vectors derived from pUC18/19. *Gene*, **97**(1), 109-112.
- ✓ **Schweder, T., Lin, H., Jürgen, B., Breitenstein, A., Riemschneider, S., Khalameyzer, V., ... and Neubauer, P. (2002).** Role of the general stress response during strong overexpression of a heterologous gene in *Escherichia coli*. *Applied microbiology and biotechnology*, **58**(3), 330-337.

- ✓ **Sen D and Weaver RW (1984)** A basis for different rates of N₂- fixation by the same strains of Rhizobium in peanut and cowpea root nodules. *Plant Science Letters* **34**: 239–246.
- Seneviratne, G., and Indrasena, I. K. (2006).** Nitrogen fixation in lichens is important for improved rock weathering. *Journal of biosciences*, **31**(5), 639-643.
- ✓ **Seneviratne, G., Henakaarchchi, M. P. N. K., Weerasekara, M. L. M. A. W., and Nandasena, K. A. (2009).** Soil organic carbon and nitrogen pools as influenced by polyphenols in different particle size fractions under tropical conditions. *Journal of the National Science Foundation of Sri Lanka*, **37**(1), 67-70.
- ✓ **Serre, P. A. (1969)** Citrate synthase. In: Methods in Enzymology, edited by J. M. Lowenstein. New York: Academic, **13**, p. 3-11
- ✓ **Shaharoona, B., Imran, M., Arshad, M., and Khalid, A. (2011).** Manipulation of ethylene synthesis in roots through bacterial ACC deaminase for improving nodulation in legumes. *Critical reviews in plant sciences*, **30**(3), 279-291.
- ✓ **Sharma, V., Archana, G. and Kumar, G. N. (2011).** Plasmid load adversely affects growth and gluconic acid secretion ability of mineral phosphate- solubilizing rhizospheric bacterium Enterobacter asburiae PS13 under P limited conditions. *Microbiological Research* **166**, 36–46. Elsevier.
- ✓ **Shirai, T., Fujimura, K., Furusawa, C., Nagahisa, K., Shioya, S. and Shimizu, H. (2007)** Study on roles of anaplerotic pathways in glutamate overproduction of *Corynebacterium glutamicum* by metabolic flux analysis. *Microb. Cell. Fact.* **23**, 6-19
- ✓ **Simons, M., Van Der Bij, A. J., Brand, I., De Weger, L. A., Wijffelman, C. A., and Lugtenberg, B. J. (1996).** Gnotobiotic system for studying rhizosphere colonization by plant growth-promoting *Pseudomonas* bacteria. *MPMI-Molecular Plant Microbe Interactions*, **9**(7), 600-607.

- ✓ **Sindhu, S. S., Gupta, S. K., Suneja, S., and Dadarwal, K. R. (2002).** Enhancement of green gram nodulation and growth by *Bacillus* species. *Biologia plantarum*, **45**(1), 117-120.
- ✓ **Sindhu, S., Suneja, S., Goel, A., Parmar, N., and Dadarwal K., (2002)** Plant growth promoting effects of *Pseudomonas* sp. on coinoculation with *Mesorhizobium* sp. *ciceri* strain under sterile and “wilt sick” soil conditions. *Applied Soil Ecology*. **19**, (1), 57-64, ISSN 0929-1393.
- ✓ **Sinha, B. K, Basu P. S (1981)** Indole-3-acetic acid and metabolism in root nodules of *Pongamia pinnata* L. Pierre. *Biochem Physiol Pflanzen*. **176**: 218-227.
- ✓ **Sinsabaugh, R. L., Hill, B. H., and Shah, J. J. F. (2009).** Ecoenzymatic stoichiometry of microbial organic nutrient acquisition in soil and sediment. *Nature*, **462**(7274), 795-798.
- ✓ **Solaiman, A. R. M., and Habibullah, A. K. M. (1990).** Responses of groundnut to rhizobium inoculation [in Bangladesh]. *Bangladesh Journal of Soil Science*, **21**.
- ✓ **Solomon, M. and Weitzman. P. D. J. (1983)** Occurrence of two distinct citrate synthases in a mutant of *Pseudomonas aeruginosa* and their growth-dependent variation. *FEBS Lett.* **155**, 157-160
- ✓ **Spaink, H. P., Bloemberg, G. V., Brussel, A. V., Lugtenberg, B. J., Drift, K. V. D., Haverkamp, J., and Thomas-Oates, J. E. (1995).** Host specificity of *Rhizobium leguminosarum* is determined by the hydrophobicity of highly unsaturated fatty acyl moieties of the nodulation factors. *MPMI-Molecular Plant Microbe Interactions*, **8**(1), 155-164.
- ✓ **Spaink, H. P., Sheeley, D. M., van Brussel, A. A., Glushka, J., York, W. S., Tak, T., and Lugtenberg, B. J. (1991).** A novel highly unsaturated fatty acid moiety of lipo-oligosaccharide signals determines host specificity of *Rhizobium*.
- ✓ **Srivastava, S., Kausalya, M. T., Archana, G., Rupela, O. P. and Naresh Kumar, G. (2006).** Efficacy of organic acid secreting bacteria in solubilization of rock phosphate in

acidic alfisols. In First International Meeting on Microbial Phosphate Solubilization. Series:Developments in Plant and Soil Sciences, Edited by E. Velazquez and C. Rodriguez-Barrueco. Berlin: Springer **102**, 117–124

✓ **Stark, B. C., Dikshit, K. L., and Pagilla, K. R. (2011).** Recent advances in understanding the structure, function, and biotechnological usefulness of the hemoglobin from the bacterium *Vitreoscilla*. *Biotechnology letters*, **33**(9), 1705-1714.

✓ **Stephanopoulos, G. (1999)** Metabolic fluxes and metabolic engineering. *Met. Eng.* **1**, 1-11

✓ **Stephanopoulos, G. and Vallino, J. J. (1991)** Network rigidity and metabolic engineering in metabolite overproduction. *Science* **252**, 1675-1681

✓ **Stokell, D. J., Donald, L. J., Maurus, R., Nguyen, N. T., Sadler, G., Choudhary, K., ... and Duckworth, H. W. (2003).** Probing the roles of key residues in the unique regulatory NADH binding site of type II citrate synthase of *Escherichia coli*. *Journal of Biological Chemistry*, **278**(37), 35435-35443.

✓ **Stols, L. and Donnelly, M. I. (1997)** Production of succinic acid through overexpression of NAD(+) -dependent malic enzyme in an *Escherichia coli* mutant. *Appl. Environ. Microbiol.* **63**(7), 2695-2701

✓ **Stover, C. K. et al. (2000).** Complete genome sequence of *Pseudomonas aeruginosa* PA01, an opportunistic pathogen. *Nature* **406**, 959-964

✓ **Stowers Mark D. (1985).** Carbon Metabolism In Rhizobium Species. *Ann. Rev. Microbiol.* **39**:89-108.

✓ **Streeter, J. G. (1987).** Carbohydrate, organic acid, and amino acid composition of bacteroids and cytosol from soybean nodules. *Plant physiology*, **85**(3), 768-773.

Sugita, C., Ogata, K., Shikata, M., Jikuya, H., Takano, J., Furumichi, M., Kanehisa, M., Omata, T., Sugiura, M. and Sugita M. (2007) Complete nucleotide sequence of the freshwater unicellular cyanobacterium *Synechococcus elongatus* PCC 6301 chromosome: Gene content and organization. *Photosyn. Res.* **93**, 55-67

- ✓ **Swędrzyńska, D., and Sawicka, A. (2000).** Effect of inoculation with Azospirillum brasilense on development and yielding of maize (*Zea mays* ssp. *Saccharata* L.) under different cultivation conditions. *Polish Journal of Environmental Studies*, **9**(6), 505-509.
- ✓ **Taiz, L., Zeiger, E. (2010).** Plant Physiology, 5th ed. Sinauer Associates, Inc. U.S.A. 354-357
- ✓ **Tang, C., Hinsinger, P., Drevon, J. J., and Jaillard, B. (2001).** Phosphorus deficiency impairs early nodule functioning and enhances proton release in roots of *Medicago truncatula* L. *Annals of Botany*, **88**(1), 131-138.
- ✓ **Tapia, J., Munoz, J., Gonzalez, F., Blazquez, M., Malki, M.,and Ballester, A. (2009)** Extraction of extracellular polymeric substances from the acidophilic bacterium *Acidiphilium* 3.2 Sup (5). *Water Sci Technol* **59**: 1959–1967.
- ✓ **Taylor, B. L., Barden, R. E. and Utter, M. F. (1972).** Identification of the reacting form of pyruvate carboxylase. *J. Biol. Chem.* **247**, 7383-7390
- ✓ **Thakuria, D., Talukdar, N. C., Goswami, C., Hazarika, S., Boro, R. C., and Khan, M. R. (2004).** Characterization and screening of bacteria from rhizosphere of rice grown in acidic soils of Assam. *Current Science*, **86**(7), 978-985.
- ✓ **Thöny-Meyer, L., and Künzler, P. (1996).** The *Bradyrhizobium japonicum* aconitase gene (*acnA*) is important for free-living growth but not for an effective root nodule symbiosis. *Journal of bacteriology*, **178**(21), 6166-6172.
- ✓ **Togay, N., Togay, Y., Cimrin, K. M., and Turan, M. (2008).** Effects of rhizobium inoculation, sulfur and phosphorus applications on yield, yield components and nutrient uptakes in chickpea (*Cicer arietinum* L.). *African Journal of Biotechnology*, **7**(6).
- ✓ **Tyo, K.E., et al., 2007.** Expanding the metabolic engineering toolbox: more options to engineer cells. *Trends Biotechnol.* **25**, 132–137.
- ✓ **Tyo, K.E.J., et al., 2010.** Toward design-based engineering of industrial microbes. *Curr. Opin. Microbiol.* **13**, 255–262.

- ✓ **Unge, A., Tombolini, R., Davey, M.E., de Bruijn, F.J., Jansson, J.K., (1998)** GFP as a marker gene. In: Akkermans, A.D.L., Van Elsas, J.D., de Bruijn, F.J. (Eds.), Molecular Microbial Ecology Manual. Kluwer Academic Publishers, Dordrecht, pp. 6.1.13 1 – 6.1.13 16.
- ✓ **Valentine, A. J., Benedito, V. A., Kang, Y. (2011)**. Legume nitrogen fixation and soil abiotic stress: from physiology to genomics and beyond. *Annual Plant Reviews* **42**, 207-248.
- ✓ **van der Rest, M. E., Molenaar, D. O. U. W. E., and Konings, W. N. (1992)**. Mechanism of Na (+)-dependent citrate transport in *Klebsiella pneumoniae*. *Journal of bacteriology*, **174**(15), 4893-4898.
- Van Kessel, C., and Hartley, C. (2000)**. Agricultural management of grain legumes: has it led to an increase in nitrogen fixation?. *Field Crops Research*, **65**(2), 165-181.
- ✓ **van Rossum, M. W., Alberda, M., and van der Plas, L. H. (1997)**. Role of oxidative damage in tulip bulb scale micropropagation. *Plant Science*, **130**(2), 207-216.
- Vanbleu, E., Marchal, K. and Vanderleyden, J. (2004)** Genetic and physical map of the pLAFR1 vector. *DNA Seq.* **15**(3), 225-227
- ✓ **Vandedrinck, S., Deschamps, G., Sablon, E. and Vandamme, E. J. (2001)** Metabolic engineering of *Escherichia coli*: Construction and characterization of A gltA (citrate synthase) knockout mutant. *Meded Rijksuniv Gent. Fak. Landbouwkd. Toegep. Biol. Wet.* **66**(3a), 333-336
- ✓ **Vasse J, de Billy F, Camut S and Truchet G (1990)** Correlation between ultrastructural differentiation of bacteroids and nitrogen fixation in alfalfa nodules. *J Bacteriol* **172**:4295–4306
- ✓ **Vassilev, N., Vassileva, M., and Nikolaeva, I. (2006)**. Simultaneous P-solubilizing and biocontrol activity of microorganisms: potentials and future trends. *Applied microbiology and biotechnology*, **71**(2), 137-144.

- Vassilev, N., Vassileva, M., Bravo, V., Fernández-Serrano, M., and Nikolaeva, I. (2007)a. Simultaneous phytase production and rock phosphate solubilization by Aspergillus niger grown on dry olive wastes. *Industrial Crops and Products*, **26**(3), 332-336
- Vassilev, N., Nikolaeva, I., and Vassileva, M. (2007)b. Indole-3-acetic acid production by gel-entrapped *Bacillus thuringiensis* in the presence of rock phosphate ore. *Chemical Engineering Communications*, **194**(4), 441-445
- Vassilev, N., Nikolaeva, I., Jurado, E., Reyes, A., Fenice, M., and Vassileva, M. (2008). Antagonistic effect of microbially-treated mixture of agro-industrial wastes and inorganic insoluble phosphate to *Fusarium* wilt disease. *Progress in environmental microbiology*. Nova Publishers, USA, 223-234..
- Vassilev, N., Requena, A. R., Nieto, L. M., Nikolaeva, I., and Vassileva, M. (2009). Production of manganese peroxidase by *Phanerochaete chrysosporium* grown on medium containing agro-wastes/rock phosphate and biocontrol properties of the final product. *Industrial Crops and Products*, **30**(1), 28-32.
- Vassilev, N., Eichler-Löbermann, B., and Vassileva, M. (2012). Stress-tolerant P-solubilizing microorganisms. *Applied microbiology and biotechnology*, **95**(4), 851-859.
- Vauclare, P., Bligny, R., Gout, E., and Widmer, F. (2013). An overview of the metabolic differences between *Bradyrhizobium japonicum* 110 bacteria and differentiated bacteroids from soybean (*Glycine max*) root nodules: an in vitro ¹³C- and ³¹P- nuclear magnetic resonance spectroscopy study. *FEMS microbiology letters*.
- Vazquez, P., Holguin, G., Puente, M. E., Lopez-Cortes, A., and Bashan, Y. (2000). Phosphate-solubilizing microorganisms associated with the rhizosphere of mangroves in a semiarid coastal lagoon. *Biology and Fertility of Soils*, **30**(5-6), 460-468.
- Vessey, J. K. (2003). Plant growth promoting rhizobacteria as biofertilizers. *Plant and soil*, **255**(2), 571-586.

- ✓ **Viollier, P. H., Nguyen, K. T., Minas, W., Folcher, M., Dale, G. E., and Thompson, C. J. (2001).** Roles of aconitase in growth, metabolism, and morphological differentiation of *Streptomyces coelicolor*. *Journal of bacteriology*, **183**(10), 3193-3203.
- ✓ **Vogler, A. P., Trentmann, S. T. E. F. A. N., and Lengeler, J. W. (1989).** Alternative route for biosynthesis of amino sugars in *Escherichia coli* K-12 mutants by means of a catabolic isomerase. *Journal of bacteriology*, **171**(12), 6586-6592.
- ✓ **Wagh, J. (2013)** Genetic modification of *Herbaspirillum seropedicae* Z67 for the development of mineral phosphate solubilization (MPS) to enhance nitrogen fixation ability. Department of Biochemistry, M. S. University of Vadodara, Ph.D.Thesis.
- ✓ **Walsh, K. and Koshland, D. E. Jr. (1985a)** Characterization of rate-controlling steps in vivo by use of an adjustable expression vector. *Proc. Natl. Acad. Sci. U S A.* **82**(11), 3577-3581
- ✓ **Walsh, K. and Koshland, D. E. Jr. (1985b)** Branch point control by the phosphorylation state of isocitrate dehydrogenase. A quantitative examination of fluxes during a regulatory transition. *J. Biol. Chem.* **260**(14), 8430-8437
- ✓ **Walshaw, D. L., Wilkinson, A., Mundy, M., Smith, M., and Poole, P. S. (1997).** Regulation of the TCA cycle and the general amino acid permease by overflow metabolism in *Rhizobium leguminosarum*. *Microbiology*, **143**(7), 2209-2221.
- ✓ **Waluyo, S. H., and Lie, T. A. (2013).** Effect of phosphate on nodule primordia of soybean (*Glycine max* Merrill) in acid soils in rhizotron experiments. *Indonesian Journal of Agricultural Science*, **5**(2).
- ✓ **Wang, Z., Xiang, L., Shao, J., Węgrzyn, A., Węgrzyn, G. (2006)** Effects of the presence of ColE1 plasmid DNA in *Escherichia coli* on the host cell metabolism. *Microb Cell Fact* **5**, 34. doi:10.1186/1475-2859-5-34.
- ✓ **Wang, D., Yang, S., Tang, F., and Zhu, H. (2012).** Symbiosis specificity in the legume-rhizobial mutualism. *Cellular Microbiology*, **14**(3), 334-342.

- ✓ Ward, J. T., Lahner, B., Yakubova, E., Salt, D. E., and Raghothama, K. G. (2008). The effect of iron on the primary root elongation of Arabidopsis during phosphate deficiency. *Plant physiology*, 147(3), 1181-1191.
- ✓ Warner, J. B., Krom, B. P., Magni, C., Konings, W. I. L. N., Lolkema, J. S., Al, W. E. T. and Acteriol, J. B. (2000). Catabolite Repression and Induction of the Mg 22 - Citrate Transporter CitM of *Bacillus subtilis*. *Society* 182, 6099-6105.
- ✓ Weitzman, P. D., and Danson, M. J. (1976). Citrate synthase. Current topics in cellular regulation, 10, 161.
- ✓ Weir, B.S., (2012) The current taxonomy of rhizobia. NZ Rhizobia website. <http://www.rhizobia.co.nz/taxonomy/rhizobia> Last updated: 10 April, 2012
- ✓ Wendisch, V. F., Bott, M. and Eikmanns, B. J. (2006) Metabolic engineering of *Escherichia coli* and *Corynebacterium glutamicum* for biotechnological production of organic acids and amino acids. *Curr. Opin. Microbiol.* 9, 268–274
- West, S. E., Schweizer, H. P., Dall, C., Sample, A. K., Runyen-Janecky, L. J. (1994) Construction of improved *Escherichia-Pseudomonas* shuttle vectors derived from pUC18/19 and sequence of the region required for their replication in *Pseudomonas aeruginosa*. *Gene* 148(1), 81-86
- ✓ Whitelaw, M. A., Harden, T. J., and Helyar, K. R. (1999). Phosphate solubilisation in solution culture by the soil fungus< i> Penicillium radicum</i>. *Soil Biology and Biochemistry*, 31(5), 655-665.
- ✓ Wright, J. A., and Sanwal, B. D. (1971). Regulatory Mechanisms Involving Nicotinamide Adenine Nucleotides as Allosteric Effectors IV. PHYSICOCHEMICAL STUDY AND BINDING OF LIGANDS TO CITRATE SYNTHASE. *Journal of Biological Chemistry*, 246(6), 1689-1699.
- ✓ Xiao, C., Chi, R., He, H., Qiu, G., Wang, D., and Zhang, W. (2009). Isolation of phosphate-solubilizing fungi from phosphate mines and their effect on wheat seedling growth. *Applied biochemistry and biotechnology*, 159(2), 330-342.

- ✓ **Xu, W., Ahmed, S., Moriyama, H. and Chollet, R. (2006)** The importance of the strictly conserved, C-terminal glycine residue in phosphoenolpyruvate carboxylase for overall catalysis. Mutagenesis and truncation of Gly-961 in the *Sorghum* C4 leaf isoform. *J. Biol Chem.* **281**(25), 17238-17245
- ✓ **Yadav, K.(2013)** Genetic modification of *Citrobacter* DHRSS and *Pseudomonas fluorescens* 13525 for enhanced citric and oxalic acid secretion, Department of Biochemistry, M. S. University of Vadodara, Ph.D.Thesis.
- ✓ **Yadav, B. K., and Tarafdar, J.C., (2007)** Ability of *Emericella rugulosa* to Mobilize Unavailable P Compounds during Pearl Millet (*Pennisetum glaucum* L.) Crop under Arid Condition. *Indian Journal of Microbiology*, **41**, (1), 57-63, ISSN 0046-8991.
- ✓ **Yadav, V. G., De Mey, M., Giaw Lim, C., Kumaran Ajikumar, P., and Stephanopoulos, G. (2012).** The future of metabolic engineering and synthetic biology: towards a systematic practice. *Metabolic engineering*, **14**(3), 233-241.
- ✓ **Yamamoto, H. and Murata, M. (2000).** The CitST two-component system regulates the expression of the Mg-citrate transporter in *Bacillus subtilis*. *Molecular Microbiology* **37**, 898-912.
- ✓ **Yang, C., Hua, Q., Baba, T., Mori, H. and Shimizu, K. (2003)** Analysis of *Escherichia coli* naplerotic metabolism and its regulation mechanisms from the metabolic responses to altered dilution rates and phosphoenolpyruvate carboxykinase knockout. *Biotechnol. Bioeng.* **84**(2), 129-144
- Yang, J., Kloepper, J. W., and Ryu, C. M. (2009).** Rhizosphere bacteria help plants tolerate abiotic stress. *Trends in plant science*, **14**(1), 1-4.
- ✓ **Yanni, Y. G., and Dazzo, F. B. (2010).** Enhancement of rice production using endophytic strains of *Rhizobium leguminosarum* bv. *trifolii* in extensive field inoculation trials within the Egypt Nile delta. *Plant and soil*, **336**(1-2), 129-142.

- ✓ Young, N. D., Debellé, F., Oldroyd, G. E., Geurts, R., Cannon, S. B., Udvardi, M. K and Gish, J. (2011). The *Medicago* genome provides insight into the evolution of rhizobial symbioses. *Nature*, **480**(7378), 520-524.
- ✓ Zadeh Dizaj, K., Bahrami, S. H., Neyestani, E., Shabani, A., Lamei, J., Mahmudi, H and Vaezi, B. (2009). Breeding and enhancement of forage legumes through introduction method in dry areas.
- ✓ Zaïdi, A., M.S. Khan and M. Amil. (2003) Interactive effect of rhizotrophic microorganisms on yield and nutrient uptake of chickpea (*Cicer arietinum* L.). European Journal of Agronomy **19**: 15-21.
- ✓ Zaïdi, A., Khan, M. S., Ahemad, M., Oves, M., and Wani, P. A. (2009a). Recent advances in plant growth promotion by phosphate-solubilizing microbes. In *Microbial strategies for crop improvement* (23-50). Springer Berlin Heidelberg.
- ✓ Zaïdi, Khan MS, Ahemad M, Oves M, (2009b) Plant growth promotion by phosphate solubilizing bacteria. *Acta Microbiologica et Immunologica Hungarica*, **56** (Suppl 3): 263-284.
- ✓ Zająć, T., Klimek-Kopyra, A., Oleksy, A., Stokłosa, A., and Kulig, B. (2013). Morphological-developmental reaction and productivity of plants and canopy of semileafless pea (*Pisum sativum* L.) after seed vaccination with Rhizobium and foliar micronutrient fertilization. *Journal of Applied Botany and Food Quality*, **85**(2), 188.
- ✓ Zehirov, T. G., and Georgiev, G. I. (2001). Alterations in Cell Permeability, Apoplastic and Tissue Compartmentations of Solutes in the Root End Nodules of Boron Deficient N₂ Fixing Soybean Plants. *Comptes Rendus de l'Academie Bulgare des Sciences*, **54**(1), 71.
- ✓ Zhu, N., Xia, H., Wang, Z., Zhao, X., and Chen, T. (2013). Engineering of Acetate Recycling and Citrate Synthase to Improve Aerobic Succinate Production in *Corynebacterium glutamicum*. *PloS one*, **8**(4), e60659.

Bibliography

Aebi, H. (1984) Catalase in vitro. Methods Enzymol. **105**:121–126

Ahmed, N., and Shahab, S. (2010). Involvement of bacterial pyrroloquinoline in plant growth promotion: A novel discovery. *World App. Sci. J.*, **8**, 57-61.

Aliverdieva, D. A., Mamaev, D. V., and Bondarenko, D. I. (2008) Plasmalemma dicarboxylate transporter of *Saccharomyces cerevisiae* is involved in citrate and succinate influx and is modulated by pH and cations. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, **2(4)**, 354-364.

Anandham, R., Gandhi, P. I., Madhaiyan, M., and Sa, T. (2008) Potential plant growth promoting traits and bioacidulation of rock phosphate by thiosulfate oxidizing bacteria isolated from crop plants. Journal of basic microbiology, **48(6)**, 439-447.

Anjum, M. S., Ahmed, Z. I., and Rauf, C. A. (2006) Effect of Rhizobium inoculation and nitrogen fertilizer on yield and yield components of mungbean. Int. J. Agric. Biol., **8(2)**, 238-240.

Argaw, A. (2011) Evaluation of Co-inoculation of *Bradyrhizobium japonicum* and Phosphate Solubilizing *Pseudomonas* spp. Effect on Soybean (*Glycine max L. Merr.*) in Assossa Area. Journal of Agricultural Science and Technology, **14(1)**, 213-224.

Armager N (2002) Genetically modified bacteria in agriculture. Biochimie **84**:1061–1072

Attwood, P. V. (1995) The structure and the mechanism of action of pyruvate carboxylase. The international journal of biochemistry and cell biology, **27(3)**, 231-249.

Badawi, F. S. F., Biomy, A. M. M., and Desoky, A. H. (2011) Peanut plant growth and yield as influenced by co-inoculation with *Bradyrhizobium* and some rhizo-microorganisms under sandy loam soil conditions. Annals of Agricultural Sciences, **56(1)**, 17-25.

Bashan, Y., and de Bashan, L. E. (2005) Plant growth-promoting. Encyclopedia of soils in the environment, **1**, 103-115.

Bashan, Y., M. Moreno, and E. Troyo (2000) "Growth promotion of the seawater-irrigated oilseed halophyte *Salicornia bigelovii* inoculated with mangrove rhizosphere bacteria and halotolerant *Azospirillum* spp." Biology and Fertility of Soils **32.4**: 265-272.

Bibliography

- Bianco, C., Imperlini, E., Calogero, R., Senatore, B., Amoresano, A., Carpentieri, A., and Defez, R. (2006)** Indole-3-acetic acid improves Escherichia coli's defences to stress. Archives of microbiology, **185**(5), 373-382.
- Bott, M. (2007)** Offering surprises: TCA cycle regulation in *Corynebacterium glutamicum* Trends in microbiology, **15**(9), 417-425.
- Buch, A. B., Archana, G. and Naresh Kumar, G. (2008)** Metabolic channeling of glucose towards gluconate in phosphate-solubilizing *Pseudomonas aeruginosa* P4 under phosphorus deficiency. Res Microbiol **159**: 635–642.
- Carmen, B., and Roberto, D. (2011)** Soil bacteria support and protect plants against abiotic stresses. Bio/Technology **1**, 784–791
- Castel Abell, G. C., Revill, A. T., Smith, C., Bissett, A. P., Volkman, J. K., & Robert, S. S. (2010).** Archaeal ammonia oxidizers and nirS-type denitrifiers dominate sediment nitrifying and denitrifying populations in a subtropical macrotidal estuary. The ISME journal, **4**(2), 286-300.
- Chalk PM, Souza RdeF, Urquiaga S, Alves BJR, Boddey RM (2006)** The role of arbuscular mycorrhiza in legume symbiotic performance. Soil Biol Biochem **38**:2944–2951
- Choi, O., Kim, J., Kim, J. G., Jeong, Y., Moon, J. S., Park, C. S., and Hwang, I. (2008)** Pyrroloquinoline quinone is a plant growth promotion factor produced by *Pseudomonas fluorescens* B16. Plant physiology, **146**(2), 657-668.
- Contiero, J., Beatty, C., Kumari, S., DeSanti, C. L., Strohl, W. R., and Wolfe, A. (2000)** Effects of mutations in acetate metabolism on high-cell-density growth of Escherichia coli. Journal of Industrial Microbiology and Biotechnology, **24**(6), 421-430.
- De Souza Moreira, F. M., de Carvalho, T. S., and Siqueira, J. O. (2010)** Effect of fertilizers, lime, and inoculation with rhizobia and mycorrhizal fungi on the growth of four leguminous tree species in a low-fertility soil. Biology and fertility of soils, **46**(8), 771-779.
- Deepa, C. K., Dastager, S. G., and Pandey, A. (2010)** Isolation and characterization of plant growth promoting bacteria from non-rhizospheric soil and their effect on cowpea (*Vigna* *Development of mineral phosphate solubilization ability in Rhizobium spp. by metabolic engineering of tricarboxylic acid cycle*

Bibliography

unguiculata (L.) Walp.) seedling growth. World Journal of Microbiology and Biotechnology, **26**(7), 1233-1240.

Deepa, C. K., Dastager, S. G., and Pandey, A. (2010) Isolation and characterization of plant growth promoting bacteria from non-rhizospheric soil and their effect on cowpea (*Vigna unguiculata* (L.) Walp.) seedling growth. World Journal of Microbiology and Biotechnology, **26**(7), 1233-1240.

DuBois M, Gilles KA, Hamilton JK, Rebers PA, Smith F (1956) Colorimetric method for determination of sugars and related substances. Anal Chem **28**:350–356.

Duckworth. (2003) Probing the roles of key residues in the unique regulatory NADH binding site of type II citrate synthase of *Escherichia coli*. J. Biol. Chem. **278**: 35435–35443.

Duteau N M, Palmer R G and Atherly A G 1985 Fast-growing *Rhizobium fredii* are poor nitrogen fixing symbionts of soybean. Crop Sci. **26**, 884–889

Dymov, S. L., Meek, D. J., Steven, B., & Driscoll, B. T. (2004) Insertion of Transposon Tn 5 tac1 in the *Sinorhizobium meliloti* Malate Dehydrogenase (mdh) Gene Results in Conditional Polar Effects on Downstream TCA Cycle Genes. Molecular plant-microbe interactions, **17**(12), 1318-1327.

Edwards, E. J., McCaffery, S., and Evans, J. R. (2005) Phosphorus status determines biomass response to elevated CO₂ in a legume: C4 grass community. Global change biology, **11**(11), 1968-1981.

Edwards, E. J., McCaffery, S., and Evans, J. R. (2006) Phosphorus availability and elevated CO₂ affect biological nitrogen fixation and nutrient fluxes in a clover-dominated sward. New Phytologist, **169**(1), 157-167.

Egamberdieva, D., Berg, G., Lindström, K., and Räsänen, L. A. (2010) Co-inoculation of *Pseudomonas spp.* with *Rhizobium* improves growth and symbiotic performance of fodder galega (*Galega orientalis* Lam.). European Journal of Soil Biology, **46**(3), 269-272.

Bibliography

- Emmerling, M., Dauner, M., Ponti, A., Fiaux, J., Hochuli, M., Szyperski, T., ... and Sauer, U. (2002)** Metabolic flux responses to pyruvate kinase knockout in *Escherichia coli*. *Journal of bacteriology*, **184**(1), 152-164.
- Farmer, W. R. and Liao, J. C. (1997)** Reduction of aerobic acetate production by *Escherichia coli*. *Appl. Environ. Microbiol.* **63**(8), 3205–3210
- Ferguson, B. J., Indrasumunar, A., Hayashi, S., Lin, M. H., Lin, Y. H., Reid, D. E., and Gresshoff, P. M. (2010)** Molecular analysis of legume nodule development and autoregulation. *Journal of integrative plant biology*, **52**(1), 61-76.
- Figueiredo MVB, Seldin L, Araujo FF, Mariano RLR (2010)** Plant growth promoting rhizobacteria: fundamentals and applications. In: Maheshwari DK (ed) Plant growth and health promoting bacteria, 45-68. microbiology monographs 18. Springer, Berlin.
- Foster, J. W., Carson, S. F., Anthony, D. S., Davis, J. B., Jefferson, W. E., and Long, M. V. (1949)** Aerobic Formation of Fumaric Acid in the Mold Rhizopus Nigricans: Synthesis by Direct C2 Condensation*. *Proceedings of the National Academy of Sciences of the United States of America*, **35**(12), 663.
- Fuentes-Ramírez, L. E., Caballero-Mellado, J., Sepúlveda, J., and Martínez-Romero, E. (1999)** Colonization of sugarcane by *Acetobacter diazotrophicus* is inhibited by high N-fertilization. *FEMS Microbiology Ecology*, **29**(2), 117-128.
- Gadd, G. M. (1999)** Fungal production of citric and oxalic acid: importance in metal speciation, physiology and biogeochemical processes. *Advances in microbial physiology*, **41**, 47-92.
- Giannopolitis, C. N., and Ries, S. K. (1977)** Superoxide dismutases II. purification and quantitative relationship with water-soluble protein in seedlings. *Plant physiology*, **59**(2), 315-318.
- Giannopolitis, C. N., and Ries, S. K. (1977)** Superoxide dismutases I. Occurrence in higher plants. *Plant physiology*, **59**(2), 309-314.

Bibliography

Granada, C. E., Arruda, L., Lisboa, B. B., Passaglia, L. M., & Vargas, L. K. (2014) Diversity of native rhizobia isolated in south Brazil and their growth promotion effect on white clover (*Trifolium repens*) and rice (*Oryza sativa*) plants. *Biology and Fertility of Soils*, **50**(1), 123-132.

Gulati, A., Sharma, N., Vyas, P., Sood, S., Rahi, P., Pathania, V., and Prasad, R. (2010) Organic acid production and plant growth promotion as a function of phosphate solubilization by *Acinetobacter rhizosphaerae* strain BIHB 723 isolated from the cold deserts of the trans-Himalayas. *Archives of microbiology*, **192**(11), 975-983.

Gulati, A., Sharma, N., Vyas, P., Sood, S., Rahi, P., Pathania, V., and Prasad, R. (2010). Organic acid production and plant growth promotion as a function of phosphate solubilization by *Acinetobacter rhizosphaerae* strain BIHB 723 isolated from the cold deserts of the trans-Himalayas. *Archives of microbiology*, **192**(11), 975-983.

Gururani, M. A., Upadhyaya, C. P., Strasser, R. J., Woong, Y. J., and Park, S. W. (2012) Physiological and biochemical responses of transgenic potato plants with altered expression of PSII manganese stabilizing protein. *Plant Physiology and Biochemistry*, **58**, 182-194.

Gyaneshwar, P., Kumar, G. N., Parekh, L. J., and Poole, P. S. (2002) Role of soil microorganisms in improving P nutrition of plants. In *Food Security in Nutrient-Stressed Environments: Exploiting Plants' Genetic Capabilities* (pp. 133-143). Springer Netherlands.

Hemavathi, Upadhyaya, C. P., Akula, N., Young, K. E., Chun, S. C., Kim, D. H., & Park, S. W. (2010) Enhanced ascorbic acid accumulation in transgenic potato confers tolerance to various abiotic stresses. *Biotechnology letters*, **32**(2), 321-330.

Hirsch, P. R., Van Montagu, M., Johnston, A. W. B., Brewin, N. J., and Schell, J. (1980). Physical Identification of Bacteriocinogenic, Nodulation and Other Plasmids in Strains of *Rhizobium leguminosarum*. *Journal of General Microbiology*, **120**(2), 403-412.

Jayasingheachchi HS, Seneviratne G (2004a) Can mushrooms fix atmospheric nitrogen? *J Biosci* **23**:293–296

Bibliography

- Jensen, E. S., Peoples, M. B., Boddey, R. M., Gresshoff, P. M., Hauggaard-Nielsen, H., Alves, B. J., and Morrison, M. J. (2012)** Legumes for mitigation of climate change and the provision of feedstock for biofuels and biorefineries. A review. *Agronomy for Sustainable Development*, **32**(2), 329-364
- Jha, A., Sharma, D., and Saxena, J. (2012)** Effect of single and dual phosphate-solubilizing bacterial strain inoculations on overall growth of mung bean plants. *Archives of Agronomy and Soil Science*, **58**(9), 967-981.
- Kaschuk, G., Kuyper, T. W., Leffelaar, P. A., Hungria, M., and Giller, K. E. (2009)** Are the rates of photosynthesis stimulated by the carbon sink strength of rhizobial and arbuscular mycorrhizal symbioses?. *Soil Biology and Biochemistry*, **41**(6), 1233-1244.
- Keele, B. B., Hamilton, P. B., and Elkan, G. H. (1970)** Gluconate catabolism in *Rhizobium japonicum*. *Journal of bacteriology*, **101**(3), 698-704.
- Kern, S., Singer, H., Hollender, J., Schwarzenbach, R. P., and Fenner, K. (2011)** Assessing exposure to transformation products of soil-applied organic contaminants in surface water: comparison of model predictions and field data. *Environmental science and technology*, **45**(7), 2833-2841.
- Khaleghi, E., Arzani, K., Moallemi, N., and Barzegar, M. (2012)** Evaluation of Chlorophyll Content and Chlorophyll Fluorescence Parameters and Relationships between Chlorophyll a, b and Chlorophyll Content Index under Water Stress in *Olea europaea* cv. Dezful. *Dezful. World Acad Sci Eng Technol*, **68**, 1154-1157.
- Khan MS, Zaidi A, Wani PA, Ahemad M, Oves M (2009)** Functional diversity among plant growth-promoting rhizobacteria. In: Khan MS, Zaidi A, Musarrat J (eds) *Microbial strategies for crop improvement*. Springer, Berlin Heidelberg, pp 105–132
- Khan, M. S., Zaidi, A. and Wani, P. A. (2006)** Role of phosphate-solubilizing microorganisms in sustainable agriculture—A review. *Agron. Sustain. Dev.* **26**, 1-15

Bibliography

Khosla, C., and Bailey, J. E. (1989) Characterization of the oxygen-dependent promoter of the Vitreoscilla hemoglobin gene in *Escherichia coli*. Journal of bacteriology, **171**(11), 5995-6004.

Kijne JW, Smit G, Diaz CL, Lugtenberg BJJ (1988) Lectin enhanced accumulation of manganese limited *Rhizobium leguminosarum* cells on pea root hair tips. J Bacteriol **170**:2994–3000.

Kohler, J., Caravaca, F., and Roldán, A. (2010) An AM fungus and a PGPR intensify the adverse effects of salinity on the stability of rhizosphere soil aggregates of *Lactuca sativa*. Soil Biology and Biochemistry, **42**(3), 429-434.

Kumar Chanchal, Kavita Yadav, G. Archana and G. Naresh Kumar (2013) 2-Ketogluconic Acid Secretion by Incorporation of *Pseudomonas putida* KT 2440 Gluconate Dehydrogenase (gad) Operon in *Enterobacter asburiae* PSI3 Improves Mineral Phosphate Solubilization Curr Microbiol. **67**:388–394

Kumar Tewari, R., Kumar, P., Tewari, N., Srivastava, S., and Sharma, P. N. (2004) Macronutrient deficiencies and differential antioxidant responses—fluence on the activity and expression of superoxide dismutase in maize. Plant Science, **166**(3), 687-694.

Leidi, E. O., and RODRÍGUEZ-NAVARRO, D. N. (2000) Nitrogen and phosphorus availability limit N₂ fixation in bean. New Phytologist, **147**(2), 337-346.

Lichtenstein, Conrad, and Sydney Brenner(1982) "Unique insertion site of Tn7 in the *E. coli* chromosome." 601-603.

Lin, H., G. N. Bennett, and K. Y. San. 2005. Metabolic engineering of aerobic succinate production systems in *Escherichia coli* to improve process productivity and achieve the maximum theoretical succinate yield. Metab.Eng. **7**:116–127.

Lindström, K., Murwira, M., Willems, A., and Altier, N. (2010) The biodiversity of beneficial microbe-host mutualism: the case of rhizobia. Research in microbiology, **161**(6), 453-463

Bibliography

Lipping Y, Jiatao X, Daohong J, Yanping F, Guoqing L, Fangcan L (2008) Antifungal substances produced by *Penicillium oxalicum* strain PY-1-potential antibiotics against plant pathogenic fungi. World J Microbiol Biotechnol 24:909–915

López-Arredondo, D. L., and Herrera-Estrella, L. (2012) Engineering phosphorus metabolism in plants to produce a dual fertilization and weed control system. Nature biotechnology, 30(9), 889-893.

Lum MR, Hirsch AM (2003) Roots and their symbiotic microbes: strategies to obtain nitrogen and phosphorus in a nutrient-limiting environment. J Plant Growth Regul 21:368–382.

Mäder, P., Kaiser, F., Adholeya, A., Singh, R., Uppal, H. S., Sharma, A. K., ... and Fried, P. M. (2011) Inoculation of root microorganisms for sustainable wheat–rice and wheat–black gram rotations in India. Soil Biology and Biochemistry, 43(3), 609-619.

Martínez-Viveros, O., Jorquera, M. A., Crowley, D. E., Gajardo, G., and Mora, M. L. (2010) Mechanisms and practical considerations involved in plant growth promotion by rhizobacteria. Journal of soil science and plant nutrition, 10(3), 293-319.

McKenzie, G. J., & Craig, N. L. (2006) Fast, easy and efficient: site-specific insertion of transgenes into enterobacterial chromosomes using Tn7 without need for selection of the insertion event. BMC microbiology, 6(1), 39.

Misra, H. S., Rajpurohit, Y. S., and Khairnar, N. P. (2012) Pyrroloquinoline-quinone and its versatile roles in biological processes. Journal of biosciences, 37(2), 313-325.

Nielsen, U. N., Ayres, E., Wall, D. H., and Bardgett, R. D. (2011). Soil biodiversity and carbon cycling: a review and synthesis of studies examining diversity–function relationships. European Journal of Soil Science, 62(1), 105-116.

Omar, M. N. A., Osman, M. E. H., Kasim, W. A., and El-Daim, I. A. (2009) Improvement of salt tolerance mechanisms of barley cultivated under salt stress using *Azospirillum brasiliense*. In Salinity and Water Stress (pp. 133-147). Springer Netherlands.

Bibliography

- Pandey, A., Trivedi, P., Kumar, B., and Palni, L. M. S. (2006)** Characterization of a phosphate solubilizing and antagonistic strain of *Pseudomonas putida* (B0) isolated from a sub-alpine location in the Indian Central Himalaya. *Current microbiology*, **53**(2), 102-107.
- Payne, J., and J. G. Morris.** 1969. Pyruvate carboxylase in *Rhodopseudomonassphaeroides*. *J. Gen. Microbiol.* **59**:97–101.
- Peters-Wendisch, P. G., Wendisch, V. F., Paul, S., Eikmanns, B. J., and Sahm, H. (1997)** Pyruvate carboxylase as an anaplerotic enzyme in *Corynebacterium glutamicum*. *Microbiology*, **143**(4), 1095-1103.
- Pikovskaya, R. I. (1948)** Mobilization of phosphorus in soil in connection with vital activity of some microbial species. *Microbiol.* **17**, 362– 370
- Ponce, E. (1999)** Effect of growth rate reduction and genetic modifications on acetate accumulation and biomass yields in *Escherichia coli*. *Journal of bioscience and bioengineering*, **87**(6), 775-780.
- Poonguzhali S, Madhaiyan M, Sa T (2008)** Isolation and identification of phosphate solubilizing bacteria from chinese cabbage and their effect on growth and phosphorus utilization of plants. *J Microbiol Biotechnol* **18**:773–777
- Rabbani, M. G., Solaiman, A. R. M., Hossain, K. M., and Hossain, T. (2005)** Effects of Rhizobium inoculant, nitrogen, phosphorus, and molybdenum on nodulation, yield, and seed protein in pea. *Korean Journal of Crop Science*,**50**(2), 112-119.
- Ramakrishna, N., Lacey, J., and Smith, J. E. (1991)** Effect of surface sterilization, fumigation and gamma irradiation on the microflora and germination of barley seeds. *International journal of food microbiology*, **13**(1), 47-54.
- Ramírez, M., Valderrama, B., Arredondo-Peter, R., Soberón, M., Mora, J., and Hernández, G. (1999).** Rhizobium etli genetically engineered for the heterologous expression of *Vitreoscilla* sp. hemoglobin: effects on free-living and symbiosis. *Molecular plant-microbe interactions*, **12**(11), 1008-1015.

Bibliography

- Ramos, H. J., Roncato-Maccari, L. D., Souza, E. M., Soares-Ramos, J. R., Hungria, M., & Pedrosa, F. O. (2002). Monitoring Azospirillum-wheat interactions using the *gfp* and *gusA* genes constitutively expressed from a new broad-host range vector. *Journal of Biotechnology*, **97**(3), 243-252.
- Raven, P.H., Johnson, G. B. (2008). *Biology*. 8th ed. McGraw- Hill Companies, Inc., NY.
- Remans, R.; Croonenborghs, A.; Torres Gutierrez, R.; Michiels, J. and Vanderleyden, J. Effects of plant growth-promoting rhizobacteria on nodulation of Phaseolus vulgaris L. are dependent on plant nutrition. *European Journal of Plant Pathology*, Vol.119, pp.341-351,
- Reed, S. C., Cleveland, C. C., and Townsend, A. R. (2013) Relationships among phosphorus, molybdenum and free-living nitrogen fixation in tropical rain forests: results from observational and experimental analyses. *Biogeochemistry*, **114**(1-3), 135-147.
- Ross, M. R., Castle, S. C., and Barger, N. N. (2012) Effects of fuels reductions on plant communities and soils in a Piñon-juniper woodland. *Journal of Arid Environments*, **79**, 84-92.
- Sambrook, J., and Russell, D. W. (2001) *Molecular Cloning: A Laboratory Manual*, 3rd ed. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y.
- Sandhya, V., Ali, S. Z., Grover, M., Reddy, G., and Venkateswarlu, B. (2010) Effect of plant growth promoting *Pseudomonas* spp. on compatible solutes, antioxidant status and plant growth of maize under drought stress. *Plant growth regulation*, **62**(1), 21-30.
- Sato, A., and Miura, K. (2011). Root architecture remodeling induced by phosphate starvation. *Plant signaling and behavior*, **6**(8), 1-5.
- Scholla, M. H., & Elkan, G. H. (1984) *Rhizobium fredii* sp. nov., a fast-growing species that effectively nodulates soybeans. *International Journal of Systematic Bacteriology*, **34**(4), 484-486.
- Seneviratne G, Zavahir JS, Bandara WMMS, Weerasekara MLMAW (2008a) Fungal-bacterial biofilms: their development for novel biotechnological applications. *World J Microbiol Biotechnol* **24**:739–743

Bibliography

Sharma, A., and Johri, B. N. (2003). Growth promoting influence of siderophore-producing Pseudomonas strains GRP3A and PRS in maize (*Zea mays* L.) under iron limiting conditions. *Microbiological research*, **158(3)**, 243-248.

Sharma, B. C., Subba, R., and Saha, A. (2012) In-vitro solubilization of tricalcium phosphate and production of IAA by phosphate solubilizing bacteria isolated from tea rhizosphere of Darjeeling Himalaya. *Plant Sciences Feed*, 2012, **2 (6)**, 96-99.

Sharma, P., Jha, A. B., Dubey, R. S., and Pessarakli, M. (2012) Reactive oxygen species, oxidative damage, and antioxidative defense mechanism in plants under stressful conditions. *Journal of botany*, 2012.

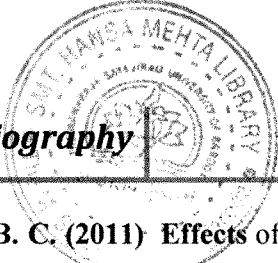
Shen, J., Yuan, L., Zhang, J., Li, H., Bai, Z., Chen, X., ... and Zhang, F. (2011) Phosphorus dynamics: from soil to plant. *Plant physiology*, **156(3)**, 997-1005

Shine, M. B., Guruprasad, K. N., and Anand, A. (2011) Enhancement of germination, growth, and photosynthesis in soybean by pre-treatment of seeds with magnetic field. *Bioelectromagnetics*, **32 (6)**, 474-484.

Simon, R., Priefer, U., and Pühler, A. (1983). A broad host range mobilization system for in vivo genetic engineering: transposon mutagenesis in gram negative bacteria. *Nature Biotechnology*, **1(9)**, 784-791.

Sims, J. Thomas Pierzynski, Gary M. Editor(s): Tabatabai, M.A.Sparks, D.L.Chapter:Chemistry of Phosphorus in Soils In Chemical Processes in Soils 2005. p. 151–192.doi:10.2136/sssabookser8.c2 SSSA Book Series 8 Soil Science Society of America.

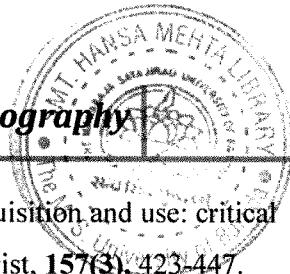
Sindhu, S. S., Suneja, S., Goel, A. K., Parmar, N., and Dadarwal, K. R. (2002) Plant growth promoting effects of< i> Pseudomonas</i> sp. on coinoculation with< i> Mesorhizobium</i> sp.< i> Cicer</i> strain under sterile and “wilt sick” soil conditions. *Applied Soil Ecology*, **19(1)**, 57-64.



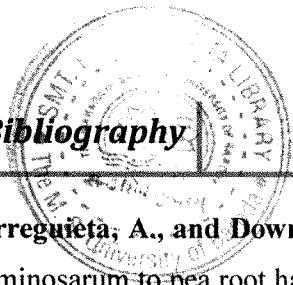
Bibliography

- Singh, B. K., Pathak, K. A., Verma, A. K., Verma, V. K., and Deka, B. C. (2011)** Effects of vermicompost, fertilizer and mulch on plant growth, nodulation and pod yield of French bean (*Phaseolus vulgaris L.*). *Vegetable Crops Research Bulletin*, **74(1)**, 153-165.
- Singh, G., Sekhon, H. S., and Sharma, P. (2011)** Effect of irrigation and biofertilizer on water use, nodulation, growth and yield of chickpea (*Cicer arietinum L.*). *Archives of Agronomy and Soil Science*, **57(7)**, 715-726.
- Storz, G., and Imlayt, J. A. (1999)** Oxidative stress. *Current opinion in microbiology*, **2(2)**, 188-194.
- Stowers, M. D., and Elkan, G. H. (1984)**. Gluconate catabolism in cowpea rhizobia: evidence for a ketogluconate pathway. *Archives of microbiology*, **137(1)**, 3-9.
- Sulieman, S., and Schulze, J. (2010)** Phloem-derived γ -aminobutyric acid (GABA) is involved in upregulating nodule N₂ fixation efficiency in the model legume *Medicago truncatula*. *Plant, cell and environment*, **33(12)**, 2162-2172.
- Sulieman, S., and Schulze, J. (2010)** The efficiency of nitrogen fixation of the model legume <i>Medicago truncatula</i>(Jemalong A17) is low compared to <i>Medicago sativa</i>. *Journal of plant physiology*, **167(9)**, 683-692.
- Sulieman, S., and Tran, L. S. P. (2013)** Asparagine: an amide of particular distinction in the regulation of symbiotic nitrogen fixation of legumes. *Critical reviews in biotechnology*, **33(3)**, 309-327.
- Sulieman, S., Van Ha, C., Schulze, J., and Tran, L. S. P. (2013)** Growth and nodulation of symbiotic *Medicago truncatula* at different levels of phosphorus availability. *Journal of experimental botany*, **64(10)**, 2701-2712.
- Tahir, M., and Sarwar, M. A. (2013)** Plant growth promoting rhizobacteria (PGPR): A budding complement of synthetic fertilizers for improving crop production. *Group*
- Tesfaye, M., Liu, J., Allan, D. L., and Vance, C. P. (2007)** Genomic and genetic control of phosphate stress in legumes. *Plant physiology*, **144(2)**, 594-603.

Bibliography



- Vance, C. P., Uhde-Stone, C., and Allan, D. L. (2003)** Phosphorus acquisition and use: critical adaptations by plants for securing a nonrenewable resource. *New Phytologist*, **157**(3), 423-447.
- Vassilev, N., Vassileva, M., and Nikolaeva, I. (2006)** Simultaneous P-solubilizing and biocontrol activity of microorganisms: potentials and future trends. *Applied microbiology and biotechnology*, **71**(2), 137-144.
- Verma, J. P., Yadav, J., Tiwari, K. N., and Kumar, A. (2013)**. Effect of indigenous Mesorhizobium spp. and plant growth promoting rhizobacteria on yields and nutrients uptake of chickpea (*Cicer arietinum*L.) under sustainable agriculture. *Ecological Engineering*, **51**, 282-286.
- Vincent, J. M. (1970)** A manual for the practical study of the root-nodule bacteria. A manual for the practical study of the root-nodule bacteria.
- Vyas, P., and Gulati, A. (2009)**. Organic acid production in vitro and plant growth promotion in maize under controlled environment by phosphate-solubilizing fluorescent *Pseudomonas*. *BMC microbiology*, **9**(1), 174.
- Wagh, J. (2013)**. Genetic modification of *Herbaspirillum seropedicae* Z67 for the development of mineral phosphate solubilization (MPS) to enhance nitrogen fixation ability, The Maharaja Sayajirao University Of Baroda, Vadodara, India.
- Wani PA, Khan MS, Zaidi A (2007)** Synergistic effects of the inoculation with nitrogen fixing and phosphate-solubilizing rhizobacteria on the performance of field grown chickpea. *J Plant Nutr Soil Sci* **170**:283–287
- Wani, P. A., Khan, M. S., and Zaidi, A. (2007)** Effect of metal tolerant plant growth promoting *Bradyrhizobium* sp. (*vigna*) on growth, symbiosis, seed yield and metal uptake by greengram plants. *Chemosphere*, **70**(1), 36-45.
- Weitzman, P. D. (1966)** Regulation of citrate synthase in *Escherichia coli*. *Biochim.Biophys. Acta*. **128** (1): 213-215.
- Whitelaw, M. A. (1999)** Growth promotion of plants inoculated with phosphate-solubilizing fungi. *Advances in Agronomy*, **69**, 99-151.



Bibliography

Williams, A., Wilkinson, A., Krehenbrink, M., Russo, D. M., Zorreguieta, A., and Downie, J. A. (2008) Glucomannan-mediated attachment of *Rhizobium leguminosarum* to pea root hairs is required for competitive nodule infection. *Journal of bacteriology*, **190**(13), 4706-4715.

Yadav, K (2013). Genetic Modification of *Citrobacter* DHRSS and *Pseudomonas fluorescens* 13525 For Enhanced Citric Acid and Oxalic Acid Secretion, The Maharaja Sayajirao University Of Baroda, Vadodara, India.

Yazdani, M., Bagheri, H., and Ghanbari-Malidarreh, A. (2011) Investigation the Effect of Biofertilizers, Phosphate Solubilization Microorganisms (PSM) and Plant Growth Promoting Rhizobacteria (PGPR) on Improvement of Quality and Quantity in Corn (*Zea mayz* L.). *Advances in Environmental Biology*, **5**(8).

Yu, X., Liu, X., Zhu, T. H., Liu, G. H., and Mao, C. (2011). Isolation and characterization of phosphate-solubilizing bacteria from walnut and their effect on growth and phosphorus mobilization. *Biology and Fertility of Soils*, **47**(4), 437-446.

Zaidi, A., and Khan, M. S. (2007) Stimulatory effects of dual inoculation with phosphate solubilising microorganisms and arbuscular mycorrhizal fungus on chickpea. *Animal Production Science*, **47**(8), 1016-1022

Zaidi, A., Khan, M. S., Ahemad, M., and Oves, M. (2009) Plant growth promotion by phosphate solubilizing bacteria. *Acta microbiologica et immunologica Hungarica*, **56**(3), 263-284.

Zaman-Allah, M., Sifi, B., L'Taief, B., El Aouni, M. H., and Drevon, J. J. (2007). Rhizobial inoculation and P fertilization response in common bean (*Phaseolus vulgaris*) under glasshouse and field conditions. *Experimental Agriculture*, **43**(1), 67-78.