From my nascent days in coal petrography, I’ve marveled at the magical formation of colorful carbon forms during the coal-to-coke carbonization process. To an untrained eye, coal and coke are dirty-looking materials. But looking under an optical microscope, seeing how the organic entities in coal melt into nematic liquid crystals that come closer, talk to each other and coalesce into a beautiful entity called coke, one can fall in love with nature’s wonder.

I consider myself blessed that Inland Steel Co. (now ArcelorMittal) provided me with the opportunity to explore this world of magic when I joined its research and development laboratories in East Chicago, Ind., USA, in the fall of 1979 as a research engineer. I had a free hand to explore ideas that would increase productivity, enhance operation efficiency, improve quality and reduce cost, always with an eye on environmental conservation. At Inland/ArcelorMittal, both the research and cokemaking/ironmaking operations worked hand in hand every step of the way due to management’s vision, leadership skills, and faith in its employees and the team members’ cooperative spirit and selflessness. We celebrated our victories; we shed tears for our losses. Our greatest victory was to bring a non-polluting cokemaking technology called SunCoke Heat Recovery Cokemaking to Inland Steel in 1998.

To my knowledge, we were the first steel company in the world to have adapted heat recovery technology, paving the road so other domestic steelmakers could follow. Prior to the installation of heat recovery cokemaking, a major loss occurred when the shutting down of slot-oven coke batteries caused many employees to lose their jobs. We took comfort in likening our efforts to life’s journey in which victories often outweigh defeats.

My first association with AIST goes back to my early days at Inland, where I was advised to join the Iron & Steel Society to enhance my professional growth. What a precious gift I was handed! The society offered me a world of giants
who were more than willing to share their wisdom, help me navigate my path and pick me up when I fell. Most of all, they were genuinely interested in the personal welfare of its members and of the industry as a whole. I am forever indebted to the Society and its members for contributing to the person I’ve become!

I was humbled to the core when the Iron & Steel Society awarded me with the Joseph Becker Award in 1999 for “distinguished contributions in the field of coal carbonization and coal technology,” followed by the AIST 2006 Joseph Kapitan Award for Ironmaking. Another highlight of my professional career occurred when the American Iron and Steel Institute awarded my co-authors and me the Presidential Medal. Since joining AIST, I have worked to give back, participating in program committees, co-chairing cokemaking sessions and publishing my work. My association with the Association of Iron and Steel Engineers (another predecessor of AIST) began when I contributed a chapter on cokemaking to The Making, Shaping and Treating of Steel®, 11th Edition, Ironmaking Volume.

I have received two patents, published/presented about 85 papers, contributed to five books and to the AISI website, co-authored a book entitled Indiana Coals and The Steel Industry, chaired 30 national and international conferences, and taught 20 courses worldwide.

Our industry is changing. However, those joining our world must remember that as long as iron is made through the blast furnace route, coal and coke will be used. I advise new graduates entering our industry to fall passionately in love with the pursuit of knowledge, but to also be at peace with yourself. Worldly storms are a part of life; both actions help navigate ill weather. Be good, give others what you have received and good things will ultimately follow your path. And most importantly, be humane. What use is achieving success if you’ve lost your soul along the way?

— Hardarshan Singh Valia

**VOLCANOES OF NORTHWEST INDIANA**

From spoon that fetches you food
To needle that stitches your wound
All came from my womb
Bloodied, exhausted
Mother of Volcanoes
Yes, I am the Blast Furnace of Northwest Indiana.

Oh! The sons and daughters of this land
Can you spare some time
Ignore Dante’s Inferno
Watch Miracle on Cline.

In the amphitheater of life
Along the serene Michigan Lake
Under the shadow of shifting sand dunes
Belching hot lava of steel
That flows, meanders through the uneven land
Erecting houses, bridges, highways, rail tracks
Giving shapes to cars, trains, ships, bicycles
Running turbines, generating electricity
Propelling windmills
Pumping oil and gas.

Yes, I do explode
Yes, I do spew ash
Yes, I do emit noxious fumes
Shed enough tears repenting over mistakes
Took many corrective actions to improve.

I refuse to be boarded up
I will not let grass obliterate my housing
I have promises to keep
To deliver nature’s bounty
To improve lives of masses
So long I can deliver goods
And protect them with an invisible blanket
Woven with steel threads,
I shall survive!

— Hardarshan Singh Valia